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In concluding our volume for 1876, we have only to repeat our thanks to the trade for the very abundant support which they accord to our journal, enabling us to justify the title of which we are most proud, namely that of Organ of all Anglo-Saxon Chemists and Druggists. This volume contains over 500 pages of literary matter; ten years ago our volume contained only 200 pages. We spend nearly ten times as much now on the production of our journal as we did then. Our ability to do this is due to the generous friendship we have experienced both from the wholesale and retail trade. It is impossible to prove absolutely figures as to relative circulation; but we are ourselves confident that we could bring sufficient evidence to satisfy anyone that THE CHEMIST AND DRUGGIST is read more extensively by pharmacists throughout the world than any other one journal. We are not unaware of our imperfections, which we will aim to correct, and with the continued favour of our readers we shall endeavour to push on yet farther in the road of improvement.

Every subscriber ought to have received a Diary for 1877, before this number comes to hand (those only excepted whose subscriptions date from December, 1876). In the event of any non-delivery we shall be glad to investigate and rectify the error. We have delivered some thousands in this country by Sutton's despatch. A few cases have been reported to us of subscribers having to pay carriage. Wherever this has occurred it is an error, and any one sending the receipt to us will have the amount paid refunded.

A large number of subscriptions expire with this issue. We respectfully request the favour of an early renewal, so as to enable our office work to be conducted with regularity.

Advertising firms will please note that we shall again commence the year with an almost universal home and foreign circulation.

The Pharmaceutical Council met on the 6th inst. The examiners for the ensuing year were appointed, the following being the changes occurring:—On the English board Mr. F. J. Hanbury replaces Mr. Schweitzer, and to the Scotch board Mr. J. B. Stephenson is elected in the room of Mr. Tait, deceased. —The Benevolent Fund Committee had drawn up some amended regulations, one of which, it appears, discountenances, but does not prohibit, canvassing on the part of candidates. The consideration of these regulations was postponed till February next.—Mr. Thomas Hanbury presented to the society, in memory of his brother, Daniel Hanbury, 30 copies each of "Pharmacographia" and "Science Papers," for presentation, one copy of each work, to the recipients of the Hanbury Medal, and to the chief prizemen of the society's classes.—The three professors recommended the institution of a gold medal, and the limitation of the competition for the silver medal to students of one session only. They also recommended the distribution of certificates in addition to the bronze medal to lecture students of one course only. The last suggestion was adopted, but the others, for the present, were negatived.

At the evening meeting of the Pharmaceutical Society, on December 6, a number of papers were read. Mr. A. Bottle recommended a new mode of making grey powder. His process consists in substituting for the B. P. method of trituration in a porcelain mortar agitation in a wide-mouthed glass bottle, by which means the B. P. quantity may be prepared, and the metal minutely subdivided, with an expenditure of very little, if any, more time and labour than is required for the preparation of an ordinary tincture. Mr. Bottle amusingly sketched the difference of opinion existing between pharmacists in respect to the nature of grey powder, and also mentioned that some 16 years ago Professor Redwood had read a paper on this subject, which concluded with a promise to return to it afterwards. Mr. Bottle hoped he might find the present a fitting occasion. He concluded by remarking that he was not himself responsible for the pun perpetrated in the notice of the evening's meeting, which announced a paper "On a New Mode of Making Grey Powder by A Bottle." Professors Redwood and Attfield and Messrs. Andrews, Umney, and Bland discussed the paper, generally approving Mr. Bottle's proposal.

Two papers respecting solutions of bismuth followed. Mr. Betty recommended an oleate of bismuth containing 20 per cent. of the metal as a useful soluble salt. Its preparation he thus described:—The oxide of bismuth, B. P. (the trisnitate and carbonate being useless for this purpose), is ground very fine, and the oleic acid gradually incorporated with it. The mixture, being placed in a suitable vessel, is subjected to a temperature of nearly its boiling point, then allowed to digest, with frequent agitation, at a temperature of about 60° during four days or until it solidifies. The result is pharmaceutically a plaster, chemically an oleate of bismuth.

Mr. Williams gave some notes on the reactions of the glycerole of nitrate of bismuth lately suggested by Mr. Balmano Squire. Mr. Williams said the solution should be made in the cold, and Mr. Postans detailed the extraordinary results of endeavouring to dissolve a large proportion of nitrate of bismuth in glycerine by the aid of heat. Effervescence and a white froth were the first symptoms; then fumes and a dense smoke came off. A little while afterwards the mixture in the bottle began to rise gradually, and at last it came out of the bottle like what was commonly known as a "Pharaoh's serpent," and reached the length of seven or eight inches. Shortly afterwards the mass gave off sparks from that portion of it which came out first, and ultimately the whole thing became a mass of sparks and gave a

brilliant light for about half a minute. That was the end of the whole matter, and there was only the smallest possible trace of anything left behind. Mr. Bland suggested that possibly some nitro-glycerine was formed. Dr. Redwood thought if pure oleic acid were always obtained the oleate of bismuth would be the more reliable preparation for use in medicine.

Mr. Martindale gave some interesting chemical and therapeutic details of hyoscyamine, an alkaloid only lately introduced into commerce, the effects of which on the eye seem to be almost precisely similar to those of atropine. Mr. Martindale, however, we have reason to believe, misled his hearers by assuming that the hyoscyamine referred to by Mr. Lawson in the *Practitioner* was the same as the crystallised hyoscyamine now in the market. According to our information it was "extractive hyoscyamin," which is much less potent than the crystallised form. This confusion may occasion dangerous results.

Mr. Gerrard mentioned that he had lately examined some glycerines. Out of eight samples he found four which left so much residue as to render them unfit for medicine or domestic use. Mr. Gerrard had also examined a deposit occurring in tincture of galls, and had concluded that it was ellagic acid, a product of decomposition of tannic acid.

Mr. Thresh reported the result of the ultimate analysis of capsaicin made in the laboratory of Professor Flückiger.

Meetings with the object of promoting the interests of the Chemists' and Druggists' Trade Association have been held during the past month at Sheffield and Wolverhampton. One is to be held this night (the 15th) at Manchester, while a discussion, founded on Mr. Frazer's criticisms, was expected at a meeting of the Glasgow Association a few evenings back. We have not, however, received any report.

The Society of Public Analysts seems to be in serious trouble. The president (Dr. Redwood), vice-president (Mr. Wauklyn), and treasurer (Dr. Stevenson), have all resigned their offices, generally accompanying their resignation with some observations not complimentary to the faithful few who remain.

While the star of the Public Analysts' Society seems to be declining, a new association with more ambitious aims is in process of formation. A number of eminent chemists are aiming to organise a "guild," membership of which is really to signify chemical ability. Several meetings have been held, and at present a sub-committee is considering the constitution of the proposed organisation. They have a difficult task, inasmuch as the "guild," if it is to be of real value, must give some guarantee beyond mere election of the fitness of its members.

The Grocers' Company is reported to have contributed 1,000*l.* towards the Chemical Society's Research Fund.

Some of the West End chemists are again moving towards earlier closing. At present those who are earnest in the cause seem to be but few in number, and they will find if they wait for united action and the effects of resolutions duly moved, seconded, and carried unanimously, their object will be yet a long way off. The surest means of bringing to pass the desired reform is for the wealthier chemists themselves to close an hour earlier than their neighbours. It will soon be recognised that this course is the mark of a first-class establishment, and the stragglers will gain a few shillings, perhaps, but they will lose many pounds' worth of reputation.

Our concluding portrait for this year is a faithful likeness of Mr. Thomas Barclay, of Birmingham, to whom the trade is mainly indebted for the organisation of the Trade Association, which has already done some service, and we hope will do much more in protecting and advancing the interests of chemists and druggists.

We print some important letters from Smyrna on the opium prospects for next year. Higher prices are generally anticipated, and are indeed already upon us. This rise has been predicted in our Trade Report for some months past.

Two remarkable errors on the part of druggists, both unfortunately resulting fatally, are reported in this month's number. One occurred in Leeds, the other in Cincinnati, U.S. In the first case an assistant handed to a woman, for whom he had made up a bottle of medicine for indigestion, a bottle containing strychnine, which had been put up for a surgeon. In the American case, prussiate of potash being ordered, the druggist dispensed cyanide of potassium.

American papers state that the total number of cash admissions to the Philadelphia Exhibition reached 8,004,214, and receipts \$3,674,833⁷⁴/₁₀₀. The attendance was lowest during the month of May, averaging 19,946 daily; it steadily increased, and during October averaged 102,456. The fund realised by 15 per cent. royalty on the sale of beer and soda water amounted to \$500,000.

Dr. G. B. Owens, late Lord Mayor of Dublin, and known to pharmacy by his position on the Irish Pharmaceutical Council, has received the honour of knighthood. No advance, we believe, in the scale of fees.

The Chemists' Ball for 1877 will be held at Willis's Rooms, as usual, on January 17. Mr. Walter Hills, of 338 Oxford Street, has accepted the honorary secretaryship.

The *Medical Press and Circular* has had to pay 50*l.* and costs in a libel suit for insinuating that a surgeon named Betts, of Clerkenwell, could not give good and sufficient medicine to patients at an average price of 4*d.* all round. Some eminent doctors are getting up a subscription to pay these expenses.

The chairman of the Hyde petty sessions, who is also a chemist, a surgeon, and a preacher in the neighbourhood, has been making some extravagant assertions from the Bench about the deadly effects of milk of sulphur as ordinarily sold. Some milk of sulphur bought at this very magistrate's shop shortly afterwards was found to be of almost precisely the same composition as that for selling which he had fined and lectured another druggist.

A chemist named Witherington, of the Wandsworth Road, has been fined 20*l.* under the Apothecaries' Act. He had visited people at their own houses and prescribed for them. His defence was that he had acted as assistant to a surgeon.

The *Medical Times* of last week reports that the East London Medical Defence Association has just been successful in recovering another penalty of 20*l.* from a registered chemist and druggist named Frederick Nichols, residing at Green Street, Victoria Park, who, it was alleged, did an extensive visiting and prescribing business. The proceedings were taken in the Court of Exchequer under the Apothecaries Act of 1815, but the case did not come on for hearing before the judges, as the defendant paid the full penalty sued for and costs into court. In this, as in several other cases which have been prosecuted by the association, the defendant was attempted to be covered by a registered medical practitioner.

The Medical Defence Association has also lately prosecuted quack doctors in Manchester, Greenock, and other places. In such cases as these, where the offenders have deliberately endeavoured to impose upon the public, the association must command the sympathy of every honourable druggist. It is a pity that the leaders of this movement do not take pains to dissociate their aims from such unreasonable ones as are advocated in an article we quote from a recent issue of the *Medical Examiner*.

The Pharmaceutical Society brought an action on the 6th inst., in the Liverpool County Court, against a chemist named Mickle, who was fined in two penalties last January. Since then he had twice tried to pass the Modified Examination, but had not succeeded. He had, however, carried on his chemist's business at 48 Stanley Road, Liverpool, and the cause of action on this occasion was the sale of some red precipitate. The defendant produced Mr. George Augustus Churchill, M.R.C.S. and L.S.A., who deposed that he had purchased the business from Mickle on October 20, ten days prior to the sale of poison in question. Mr. Lucas, for the plaintiffs, asked for an adjournment, as this defence was a surprise, but the judge said he was bound to non-suit. Verdict for the defendant, with costs, but with leave to the plaintiffs to bring a new action.

At Cardiff, on November 15, a chemist's assistant, named George Whitfield Williams, was committed for trial on a coroner's jury's verdict of manslaughter. A child was alleged to have died through the administration of opium. The assistant, at the request of the mother, had supplied syrup of peppies with a few drops of laudanum in it.

According to the interpretation of the Methylated Spirit Act at Glasgow recently, a licensed dealer is himself responsible for the use made of the spirit after he has sold it. Mr. Robert Fulton, an oil merchant of that city, was prosecuted by the Inland Revenue on November 20, for two offences against the Excise regulations. First, he had sold two gallons of the spirit at one time, and the license does not permit quantities of more than one gallon to be sold by retail; and secondly, he had on two occasions sold to persons who had used the spirit as a beverage. A penalty of 50*l.* was claimed for the first charge, and 100*l.* each for the others. The dealer had cautioned his assistant, a girl, not to sell more than a gallon, and had often refused to supply people when he thought the spirit was required for a beverage. But it was stated that he was required to *know* what they wanted it for. A total fine of 62*l.* 10*s.* (one fourth of each penalty) was inflicted. The following are the words of the Act (24 and 25 Viet. c. 91, sect. 6):—"If any person whatever shall colour, purify, flavour, or prepare methylated spirit in any manner to fit, or with intent to fit, such spirit for use as a beverage, or for mixing with any beverage, or shall sell such spirit, whether coloured, purified, flavoured, or prepared in any manner or not, as and for a beverage, or mixed with any beverage, he shall forfeit for every such offence 100*l.*" We should certainly have thought that this implied a sale of the spirit *ostensibly* as a beverage.

Messrs. Barrett & Elers have obtained an injunction against a manufacturer of patent stoppers for aerated waters named Vernon. He adopted Messrs. Barrett's principle, but used a substance for the stopper of *lighter* specific gravity than water, their specification claiming that it should be heavier. They showed, however, that his, when soaked with water, became of heavier specific gravity than water, and on this the decision in their favour was given.

Messrs. Goodall, Backhouse & Co., of Leeds, obtained an injunction on November 25, against a person named McNulty, of Newcastle-on-Tyne, who, under the style of Lazenby & McNulty, was selling "The Celebrated New York Relish" in bottles similar to those used by plaintiffs, and sometimes with their names on the glass. One of the partners of Goodall, Backhouse & Co. (Mr. Powell) had been to Newcastle, and in several shops had asked for a bottle of Yorkshire Relish, and had been supplied with defendant's sauce.

A druggist, named Thomas William Christian, aged 22, and lately in the employ of a wholesale firm at Bethnal Green, was charged last Friday at the Woolwich Police Court with the attempted murder of Susannah Bayley, in whose house he

lodged. He was said to have put prussic acid in some beer which he expected she would drink, and had also, it was alleged, come to her bedside and endeavoured to apply something which smelt like sulphurous acid to her mouth. He was to have been married to her daughter, and when apprehended said he had done this because she had said he should not have her daughter. He was remanded until this day, the 15th.

Mr. John H. Johnson, a well-known Liverpool chemist, died at Southport last month. He had lived a long and useful life, devoting much time and labour to Christian works both in Liverpool and in Southport, where he had resided for many years past. The firm of which he was a member was established by his father, and was one of the most old-fashioned in the country. Notwithstanding that, it has a high repute in Liverpool as the place where any drug or chemical, no matter how old, or how new, or how unusual, can always be obtained.

Pharmacalia.

ANCIENT AND MODERN.

WALKING one day last week near Covent Garden, we came by accident on Maiden Lane. Formerly it was a narrow defile like Plough Court. There Rule was famous (and for aught we know he may be famous still) for oysters. Civilisation has set in, and a fine building has replaced the bower of bliss in which were congregated every night the representatives of art, literature, and the stage. A small hostelry, which was the birthplace of the leading comic journal, and where each succeeding Saturday its pages were compiled, is now a splendid tavern; while just opposite we missed a huge, dingy, weather-beaten doer, which often creaked upon its hinges when Ambrose Godfrey came with ponderous key to let in his master, the Hon. Robert Boyle.

Musing is appropriate to Christmas time, and it was not unnatural that, standing in what is now the church of Corpus Christi, our thoughts went back to bygone days when the historic laboratory of 1680, with its cumbrous apparatus and its ancient stills, was erected on *its* consecrated ground.

When the modern workmen were widening their porch door they came upon the three furnaces in which the first phosphorus was made; when they erected the high altar they displaced a room which for more than a century contained the secret of how to make carmine. But they never came upon the faithful, perverse, [and indispensable old man who would not have permitted the Emperor of all the Russias to have interfered with his sacred pots and pans. We fancy that when he had donned his brown paper cap he was never seen to smile, and we can testify that he never received an order without betraying supreme reluctance. Yet the task was always done, and the order executed.

He was the type of the servant who said "I go not," but he went.

If the old functionary hated anything like poison, worse than an extra lamp-post in Long Acre, it was what he was pleased to call "a fancy Parmycopea," that is, a new edition. He considered such a publication nonsense and an undesirable innovation, of a piece with the compulsory contrivance with which a paternal government desired him to consume his own smoke.

"What with the book-people messing of ingreijences, and the police knowing other parties' businesses better than his-selves," it was his freely-expressed opinion that ours was not an age of progress.

Certain it is that when the autocrat was making his sarsaparilla, and had to light seven big fires, there was less smoke visible from the united chimneys of the laboratory than from the kitchen chimney of his next door neighbour.

It is also sure that when the smoke consuming patent was adjusted, the display of carbon in the free state drew down upon his head the indignation of the authorities, and he was warned to amend his ways.

He had grown old amongst ancient things, and his second fixed aversion was a new assistant. Him would he treat disdainfully, as one who had not yet acquired the right of breathing in the august premises.

What could he know, the creature of to-day? One such came and went within five years—so short a stay that he never condescended to recognise his existence.

Twice a year the old man's heart rejoiced. Once when he had his whole laboratory floor strewn with roses, and from early dawn to long past the regulation hour he was distilling aqua rosæ.

"Never let green stuff foment," was his explanation of the sight, and, to his honour be it said, he never did.

Once again, when the snow was on the ground, and the thermometer was on its way to zero, he was glad. Then he has been known to leave his bed and pile the snow upon his refrigerators and receivers, while he drew over his ammonia.

One day a pharmacist from Clifton (not the Councillor) paid a visit of inspection. When he surveyed the huge vats and worms; the iron mortar, with its pestle worked in Mediæval fashion with a beam-spring many yards in length; the sublimator, which was free from the charge of imitating any known model of any date; the underground cellarage, damp and dark, but splendid as a frigidarium; the furnace implements, retorts and receivers, which figure in rare engravings, but nowhere else; that pharmacist enlarged upon steam apparatus and mechanical appliances, in contrast with the system which had been called "the man and pan."

Little impression was produced upon our worthy, who shifted his paper cap, arranged his hair with his left sleeve, and then observed concisely, "That, I suppose, is what is called education!"

Pride was, however, destined to have a fall; rather, the old man, like other people, was not happy out of his own sphere. During the disastrous visitation of the cholera, the laboratory was shut up; every man on the establishment was pressed into service as dispensers. The stools and benches were brought into the pharmacy to accommodate the customers who sat waiting for their physic. There were few mixtures in those days and no drops; draughts were universal, and during this crisis all hands helped. Amongst them stood the old man—gruff in speech and manner, in act and deed untiring. His task was to label rows of draughts, which were made in hundreds, and late at night he labelled a whole batch wrong. Much glee was shown by the despised juniors who discovered the mistake. Next day the still fire was lighted; the stiller would never a second time risk his reputation in untried manipulations.

Things did not always go smoothly in his own department; once even there was an oversight respecting a pharmaceutical preparation.

The old man wanted to make valerian extract, and by mischance left his bundles in the silver pan in which all vegetable extracts were made. The doors were locked, but the skylights were wide open. Down came to the charmed spot, rendered attractive beyond feline resistance, the united cats of the united parishes of the Strand Union. They made havoc in the powder room, and vulgar fractions of the crockery; they cleared the shelves of lines of bottles, and left behind them an array of empties wet and dry in the midst of which the sad philosopher of Maiden Lane was found sitting like Marius in the ruins.

Peace be to the ancient operator—he well earned his last repose. To him unknown were chemical equations, theories, and decompositions; but he never missed his mark, and went

on grumbling and laborious, marvellously skilful, though unlettered, till the great change came to which he and all of us must bow.

* * *

Meditating on past events we bethought ourselves of an extract from the *Times* newspaper, dated June 8, 1821, which relates to a curious application possessing antiquarian interest:—

CORONATION OF HIS MAJESTY KING GEORGE THE FOURTH.

Court of Claims.

The next petition was from Southampton Street, Strand, praying that Messrs. Godfrey might be allowed to prepare and supply the oil to be used in anointing His Majesty at the coronation, as their house had performed that office at the coronation of George III. The text ran thus:—

"May it please your Lordships,—We, the undersigned successors of the late Ambrose Godfrey, chemist, beg leave very respectfully to lay before your most honourable court the statement of his having had the honour of preparing the oil used in anointing his late most gracious Majesty, at his coronation: and we have reason to believe that the same privilege had been enjoyed by his predecessors on similar occasions, since their first establishment in 1680. But in consequence of those records having been accidentally destroyed we presume not to urge any positive claim, though with due submission to your most honourable court, we offer ourselves to your consideration and favour, desiring to be appointed to perform the like service at the ensuing coronation of His present Most Gracious Majesty George the Fourth, whom may God long preserve."

The court decided that the claim regarded regulations that were under the exclusive control of His Majesty.

The King could appoint such person as he pleased.

One more antiquarian reminiscence, and we must make room for modern subjects. The chief novelty just now is toughened glass, but the first (then) large panes of the frailer material were those watched over by the Phoenix, in Southampton Street. Brande used to come periodically to inspect them, observing that they *must* turn pink from the presence of a trace of manganese. The windows never did, and science made a wrong conjecture.

* * *

Professor Attfield has enriched the scholastic literature of the year by a seventh edition of his *Manual*, published at Philadelphia. This good book is a carefully revised issue of a work which is too familiar to need description. Its special recommendation is that it contains a notice of each of the forty substances which are official in the Indian but not in the British Pharmacopœia; and it is adapted to the requirements of American pharmacy.

Nothing can be more concise, yet full, than its practical and theoretical instructions. The Professor is admirable in suggesting manipulations easy to be performed, at little expense, and with the simplest apparatus. We have carefully gone through many of the most important subjects in this latest copy, and we can personally bear witness to the satisfactory manner in which the task has been accomplished of presenting the truths of the art and science of chemistry to the student's mind.

Philosophical reasoning and fact are woven together in the happiest way: the one springs naturally from the other.

We made bold to purloin bodily one of Professor Attfield's chapters, and gave it as a lesson to an attentive audience. The result was excellent, and we were not unmindful to inform the hearers of the source of our inspiration.

The engravings scattered through the volume add to the

usefulness of a treatise which may be commended warmly and honestly to our own readers, and to that daily increasing class in polite society which recognises a knowledge of chemistry as part of the education of a gentleman.

We have to mention also a novelty in the art of teaching, the "Tablets of Anatomy and Physiology," by Mr. Thomas Cooke. These have been issued at intervals, and now form a very useful compendium. Each part contains a classified analysis of the subject on which it treats. Sound practical knowledge on the student's part is a point assumed, and the Tablets aim at giving readiness and precision in details.

* *

Daniel Frazer, a genial pharmacist, somewhat given to lengthiness and discursive views, has pleasantly discoursed at Glasgow on the British Conference, on things in general, and the Trade Association. He admired the whole *personnel* of the London representatives, and passed a warm eulogium on Professor Redwood.

To the praise offered to the veteran exponent of pharmacy there will not be one dissentient voice. It is only matter of regret that he should not have earlier identified himself with the proceedings of that younger generation which he has himself mainly educated, and who have long been anxious to give him direct assurance of their esteem.

The hour and the man have met at last, and the event has more than justified expectation. No president, by universal consent, has proved more urbane in his social bearings, or more efficient in his leadership: both the electors and the elected have reason to be content.

When Mr. Frazer abandons fact and ventures on disquisition he wanders on so amiably that he may be forgiven for being somewhat inconsequent. There are no actual hardships in the world of pharmacy which he can call to mind, save a few instances of law misapplied. When such arise he would go, not to Dr. Reynolds, Jones, or Barclay, but to Dr. Elias Bremridge, for relief. Willingly we would follow his example, but that gentleman is otherwise engaged, and has an absorbing practice of his own which claims his best attention.

A man compelled to look after five columns of nebulous chemists who have a name but no local habitation may be excused from extraneous work, however desirable in itself. On the other hand, a society prepared to grapple with difficulties which all acknowledge, some of which are imminent—some of which may rise at any moment—one of which did rise at Nottingham and by prompt action was dispersed—such a society, we say, may be accepted by all reasonable persons as a judicious undertaking.

"I have no right," observes Mr. Frazer, "in my capacity as a councillor of the Pharmaceutical Society, and so representing a public body, to enter the law courts without first counting the costs, and seeing how I am to come out of them." Precisely the point at issue.

We see an insuperable difficulty in the society as such ever so compromising the interests of the whole community of druggists. We imagine that such a course would be to abandon its legitimate functions, and therefore we hail the rise of a protective and defensive trade association as a strong aid, as well as a necessity.

The originators of the scheme must be credited with common sense: they are as little likely to tilt against imaginary windmills or claim absurd rights for pharmacy as they are to sow the seeds of discord, or oppose a Council whose interests they serve.

May we ask Mr. Frazer to give up his strange theory of protection? Corn is one thing, and a poisonous drug another. It was a wise policy that swept away the monopoly in wheat, and which gave us cheap bread and prosperous British farmers, but it does not add to our comfort to see the grossly uneducated

retailing death in ounces, nor do we think that the national welfare would be enhanced by the unprotected sale of strychnine.

Once more we read over the inaugural address delivered in Anderson's University. For its tone of kindly feeling, and the spirit of allowance which it displays, there can be nothing but admiration. The speaker will be no loser in the esteem of others in that, while his thoughts take sharp outlines and run counter to the views of many, they are conveyed in the language of forbearance and cordiality.

We heartily reciprocate on this side the Tweed the sentiments of goodwill and fellowship Mr. Frazer has ungrudgingly expressed.

* *

There are few admirers of English composition who have not read the description of the fountain at the Temple by Charles Dickens. What though the benchers during the long vacation, turned up and locked the garden seats, the water rose and sparkled as merrily as ever.

Now within the Temple Gardens there has been for many years a man who not only is a working gardener but a man of genius. J. Dale conceived the bold idea of growing the chrysanthemum in the very midst of the smoke of London, and almost within hearing of the roar of Fleet Street. In spite of circumstances the most untoward, he has produced annually a fine, if not an unequalled, show of the flower in great variety.

He began his work in 1841, and deserves credit for having wonderfully improved the cultivation of the object of his care. Soon he attracted general attention; his display became a fashionable thing to visit, and lords and ladies, as well as crowds of the humblest ranks, met in this dreary December month to delight themselves in his collection.

In 1856, Mr. Dale published a pamphlet on the subject, which became a text-book for other cultivators. Modern improvement, under the guise of a necessity for more bricks and mortar, has gradually encroached upon the flower beds—slip by slip has been appropriated—until Goldsmith's notion that the function of the rich was to swallow up the poor has to some extent been verified. The grand show of chrysanthemums has henceforth been made impossible; but we should be sorry not to testify respect for a practical botanist who has materially increased the happiness of town life, and who for more than thirty years has contributed a cheap and real pleasure to thousands in the Metropolis.

* *

We are reminded by the inclement season, with its sudden changes of temperature and damp, of the fortunes of a trade article by no means so far removed from pharmacy as the terra cotta vases spoken of at Glasgow. The respirator was the original name (and it was a good one) first given by the inventor, Mr. Jeffery, to an apparatus for modifying the external air.

It had an extensive sale, and pharmacists of high reputation were appointed agents. But the discoverer of the instrument was not sufficiently acquainted with commercial details, nor alive to the requirements of a retail customer.

The primary shape was so profoundly unattractive that few of the gentler sex would wear them save under medical instruction, while the sterner section of humanity dreaded their too forbidding aspect.

The form was therefore changed perpetually, together with the price; a new name was chosen, and handbills enlarged scientifically on their remedial application. The result of alteration was unfortunate, and had an injurious influence on the sale. Soon an infinity of variations on the original design appeared, and people thought they derived benefit from any porous stratum interposed between the organs of respiration and the air.

Of late Dr. Lennox Browne has provided beauty with a climatic apparatus far from unbecoming. This is a veil entrusted to the manufacturing care of Messrs. Marshall & Snelgrove, "of simple blonde, with a border about four inches in depth of double silk gossamer sewn along the lower edge." It is made stiff by a very thin wire gauze, which keeps it off the face, and there are minor methods of attachment which a pharmacienne who has passed her examination would best understand.

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Chemistry reveals no sounder axiom than that it is impossible to force the contents of a gallon measure into a pint receiver. Yet, if we are not misinformed, our students try to make the vain experiment.

The hour of testing has arrived, and that sound knowledge which should have been the slow growth of years, strengthened by the devoted culture of as many months, has at the last moment to be stimulated somehow, and the glorious occupation of a well-spent youth has to be turned into the dreary struggle of superhuman condensation.

We may moralise upon the subject to our heart's content, and frame beautiful little sentences replete with good advice, but—as it was in the beginning, is now, and as long as the world lasts, ever will be—the litre will never squeeze into the millilitre, nor can the loving work of time, by any mode of spasmodic preparation, be compressed into the effort of a few weeks.

Numbers of students never give our educational establishments a chance. We have admirable professors—men whose heart is in their teaching—and we have schools of pharmacy which present every possible facility and advantage.

The best teacher can only teach his student how to learn—and learning must be sought long and diligently, and with a willing mind.

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Not with a grieved spirit, nor with words of censure, would we end the passing year. Pharmacy has reason to rejoice—our own society has maintained its character and position, and the Square has had a fair measure of prosperity.

Mr. Frederick Janson Hanbury is on the list of the examiners for the ensuing year to be submitted to the approval of the Privy Council. We strongly congratulate both the society and himself on the event. It will please all classes that a name so long and honourably associated with our examinations should thus not be absent from the London Board.

Trade, we are told, has not been good: the statement must be taken with reserve, for personally we do not know—yet we have made much inquiry. Death has been more sparing in his harvest, and we have to mourn over the loss of few distinguished members.

During the last six months it has been our privilege to hold converse with our brother pharmacists in these notes called "Pharmacalia." The design has been to chronicle the events of pharmacy, not as memoranda, or as a string of notices, but to present them according to our ability in a literary dress. If we have failed, it is neither from want of good intentions or hard work.

We thank those numerous correspondents to whom we have never applied in vain for aid or information. To all our readers we wish the best and truest compliments of the season: health first; next, success in business; lastly, honour.

To our young friends whose constant expressions of esteem have been our rich reward, we would counsel hope and a cheerfulness of disposition.

Wait—and the darkest night shall pass: wait—and the small stream shall swell into a river, and the river lead onward to the broad sea.

This is a German thought, and with it, till we meet again next year, we say, FAREWELL.

MR. THOMAS BARCLAY.

WHATEVER may be the outcome of the Chemists' and Druggists' Trade Association, it is not by any means premature to recognise the service rendered in originating it and conducting the preliminary arrangements by the gentleman whose portrait we present this month. Of course Mr. Barclay has been thanked both formally and sincerely; but in the volume of *THE CHEMIST AND DRUGGIST* which contains such full reports of the formation of the society referred to we desire to include the briefest possible sketch of its author.

What Mr. Barclay did for the trade was this:—Throughout the country a large number of chemists and druggists, uninfluential, and, to a great extent, unnoticed, were worried with difficulties and annoyances which are not experienced by the higher classes of pharmacutists to whom the lines have fallen in more pleasant places. It matters not now whether those grievances were actual or imaginary; they worried all the same. Familiar with country druggists, through travelling amongst them for 12 years, over ground extending from Northumberland to Devonshire, Mr. Barclay resolved to lend them the means and the influence of the noted firm with which he is associated to speak for them and to act for them until they found the means of organising themselves. This design he carried through with an energy and skill which could not be surpassed. He has provided an association in which the smallest pharmaceutical trader can, if he will, exercise an influence, and one which has already shown to would-be enemies of the trade how much more serious an affair it is to attack a phalanx than to disperse of twice the number of men in disarray.

Mr. Barclay is a native of Sunderland, where he was born in 1839. In his sixteenth year he was apprenticed to the late Mr. John Mawson, of Newcastle-on-Tyne. The business, now carried on under the style of Mawson & Swan, was then as now a rather special one, including to a great extent chemical, philosophical, and photographic apparatus. Mr. Mawson was a man of genial disposition and thorough business habits, and he marked his individuality strongly on those with whom he came in contact. It will be remembered that he was killed a few years ago by the explosion of some nitro-glycerine which had been stored in the Town Moor without the knowledge of the authorities. During the course of Mr. Barclay's apprenticeship some classes were established in Newcastle by Messrs. Brady, Proctor, and others, embracing chemistry, botany, and materia medica. These he attended, much to his subsequent advantage. He stayed with Mr. Mawson one year beyond his apprenticeship, and then obtained an engagement with Messrs. Southall, Son & Dymond as traveller, filling the position vacated by Mr. Dymond on the death of Mr. Thomas Southall. This was in 1861. Five years later he became junior partner in the firm, and when Mr. Dymond died in 1873 the title of the house was changed to its present style of Southall Bros. & Barclay. Under this new designation the old firm has advanced its business with remarkable vigour, and certainly with undiminished reputation.

Mr. Barclay takes an active share in local affairs. He was two years president of the Midland Counties Chemists' Association, and it will indicate the tendencies of his extra-commercial life if we mention that he is now president of the Birmingham branch of the Commercial Travellers' Christian Association. In the King's Norton district, where he resides, he is a busy member of the School Board and president of the King's Norton Voluntary Religious Association, a section of the practical Birmingham idea, the object of which is, while keeping Board Schools to their distinctive work of imparting simply secular instruction, to promote as far as voluntary effort can the religious education of the children attending them.

These few notes will sufficiently indicate that in the subject of our sketch we have one of those men who, while active in the prosecution of their own interests, are no less eager to promote the welfare of those around them.

THE CHEMIST AND DRUGGIST PORTRAIT GALLERY.

XXIV.



*Yours faithfully
Thomas Barclay*

MR. THOMAS BARCLAY.

Scientific Notes from Foreign Sources.

THE ALKALOID OF PYRETHRUM CARNEUM.*

By M. JOUSSET.

It is known that pyrethrum in powder constitutes, with few exceptions, the basis of all insecticides actually employed, and it has been erroneously supposed that the action is merely mechanical by obstructing the spiracles. M. Jousset submitted to the Society of Biology some moths which had been for six hours in contact with certain inert powders of dried leaves, wood, &c., and observed that they presented no morbid phenomena. For comparison he exhibited others which had been for one hour only in powder of pyrethrum: these were already almost dead, and presented well-marked convulsive phenomena. If the powder be previously treated with alcohol, the insecticide properties are lost at the same time that the alcohol becomes endowed with toxic properties. M. Jousset opposes the opinion which credits the poisonous effects of this powder to the essential oil which it contains. After having isolated the oil, he has determined by experiments that it was without effect on insects. Further, he has isolated an alkaloid by appropriate means, and finds it to be a crystalline substance possessing the toxic properties of the plant in a high degree. The composition and properties of this alkaloid still require elucidation.†

SOME PROPERTIES OF SALICYLIC ACID.‡

By M. HENRI LAJOUX.

SALICYLIC acid has already obtained an important place in therapeutics and the arts, though it is not long since its manufacture was rendered practicable by Kolbe. The author's experiments show that the elimination of salicylic acid by the kidneys is more rapid than is generally supposed: its presence in the urine may be detected half an hour after ingestion. This differs from the conclusions of German writers, who allow two hours from the time of absorption for the appearance of the acid in the excretæ. Twenty hours are required for its total elimination. The antiseptic properties of the alkaline salicylates are greatly inferior to those of salicylic acid. Kolbe has shown that salicylic acid forms alkaline salicylates when added to fresh venous blood. Very pronounced effects, therefore, should not be expected from the administration of the acid if means are not taken to prevent neutralisation by the alkalies present in the blood, and as citric acid replaces salicylic in its combinations, M. Lajoux advises the employment of a syrup containing citric acid and 0.25 per cent. of salicylic acid. To preserve syrups liable to ferment, such as those of cherries, mulberries, gentian, capillaire, and ipecacuanha, he finds that a minimum of one-tenth per cent. of the sugar contained in the syrup is necessary. His experiments were conducted in a laboratory having a temperature of about 17° C., in test tubes loosely covered with paper. At the end of two months they were still perfectly fresh, although other samples not treated with the acid were completely decomposed.

J. Muller has remarked that $\frac{1}{500}$ of salicylic acid does not prevent the formation of mould in urine, which, however, still remains acid and free from bacteria. According to the same experiments, half this proportion of carbolic acid preserves urine from every kind of change. It is well known that salicylic acid paralyses much more energetically than carbolic acid the action of yeast and ptyaline, the transformation of glycogen into sugar, and the gastric fermentation; it prevents also both the lactic and sinapic fermentation. In other cases it is carbolic acid which produces the more intense effect. It seems, indeed, as if the action of carbolic acid were directed specially against the development of mould, and that of salicylic acid against fermentation. M. Lajoux is of opinion that it would be highly interesting to study

the effects of these two bodies upon the grainy matter studied by M. Baudrimont under the name of *pseudo-organised body*, which precedes the formation of algæ (*oscillaria thermalis*) in Vichy water under the influence of light and atmospheric oxygen. Those who, with Berthelot, do not see in fermentation a phenomenon correlative to life and the development of an organised being, and those who, with Frémy, attribute to semi-organised bodies the production of the organisms which characterise the true fermentations of Pasteur, will find in the difference of action of salicylic acid on mould and on ferments, one argument the more in favour of their doctrines.

M. Lajoux has observed, as also have MM. Millon and Loweran, that salicine, in passing through the animal organism, is transformed into salicylic acid. If salicylic acid exerts a febrifuge action, this observation should explain the similar action of salicine.

OIL OF ALEURITIS TRILOBA.*

By DR. C. OXAMENDI.

THE *Aleuritis triloba* is a large euphorbiaceous tree, growing between the tropics, and particularly in India, where it is called by the English *candle tree* or *candleberry*. The oil is known in Ceylon as *kekune*. According to Griffith, the fruits are employed as aphrodisiacs, being taken in small quantity in the fresh state. M. Bouchardat attributes to the oil valuable purgative properties; the dose is 30 grammes, or even (as M. Retano de Gresandy states) 60 grammes. M. Oxamendi confirms these observations as regards the purgative properties of the oil, but is of opinion that 15 grammes is a dose sufficiently large for an adult, and 8 grammes for a child. The effects on the intestines are the same as those of castor oil. It is not at all disagreeable to take, and has a nutty taste. It acts in about three hours without producing pain or colic. M. Oxamendi thinks that the action is due to a special resin. He recommends the following mixture:—

	Grammes
Oil of <i>aleuritis triloba</i>	15
Powdered gum arabic	12
Water	12
White sugar	15

ON THE DECOMPOSITION OF SOLUTION OF IODIDE OF POTASSIUM.†

By M. BASTAUDIER.

THE author has experimented with a view of testing the conclusion to which other observers have come, that the decomposition noticed in a solution of iodide of potassium is due to solar light, and in no degree to the influence of the atmosphere. According to him this conclusion is not sound. He finds that the solution in question is not affected by the solar rays when air is excluded; is scarcely affected by the same in an atmosphere of oxygen and nitrogen only, but is decomposed to varying extents in ordinary air containing traces of acids, particularly carbonic acid. This result may be due to the liberation of hydriodic acid.

CHROMIC ACID FOR WARTS.

L'Union Medicale says three or four applications of chromic acid will cause the disappearance of warts, however hard, large, or dense these may be. The application gives rise to neither pain, suppuration nor cicatrices, the sole inconvenience being the production of a dark brown colour.

PURE TANNATE OF QUININE.‡

For the preparation of a tannate of quinine, which shall be as free as possible from sulphate, Regnaud gives the following directions:—A watery solution of acetate of quinine is precipitated by a solution of gallotannic acid, and the latter added with agitation until the quinine tannate passes again into solution. The fluid is now neutralised with ammonia, or carbonate of ammonia, or even with bicarbonate of sodium. The precipitate is collected and washed in a filter, drained, and dried in the air. This quinine tannate should be colourless and contain two equivalents of tannin to one equivalent of quinine ($C_{20}H_{24}N_2O_{12}$).

* *Journ. de Pharm. et de Chim.*, August, 1876, p. 139, from *Journ. des Com. Méd.*

† We have always supposed that the insecticide properties of pyrethrum were confined to the flowers, and we believe this is the general opinion. M. Jousset does not appear to have experimented with any selected part of the plant, and indeed speaks in terms so general as to convey the idea that all parts are equally effective. Whether viewed commercially or scientifically this is a point of considerable importance, and we would suggest that some among our readers who are microscopists should direct their attention and object-glasses towards it.—ED. C. & D.

‡ *Journ. de Pharm. et de Chim.*, August, 1876, p. 136.

* *Journ. de Pharm. et de Chim.*, September, 1876, p. 228, from *Journ. de Thérap.*

† *Journ. de Pharm. et de Chim.*, September, 1876, p. 214.

‡ *Pharm. Cent.-Anzeiger*, December 11, 1875, from *Pharm. Centrallh.*

[$C_{27}H_{22}O_{17}$]). It is readily dissolved by alcohol, but is not soluble in water, which, however, removes tannic acid from solution. As regards the quinine contained in each, one part of the sulphate is equivalent to 3.5 parts of the tannate of that alkaloid.

CANTHARIDINE.*

For the extraction of cantharidine Galippe prefers acetic ether before chloroform. The operation proceeds best in a displacement apparatus. If one part by weight of powdered cantharides is treated with two parts of acetic ether, the first is exhausted, when the fluid drops away almost colourless. The yield is increased if the apparatus is allowed to stand in a room at about 35° C. The acetic ether is recovered from the fluid by distillation, and there is left behind a green fatty matter, beset with crystals of cantharidine. The residue is spread on bibulous paper, which absorbs the fatty matter; the crystals are washed with carbon bisulphide, and re-crystallised from acetic ether, after treatment with animal charcoal.

VOLUMETRIC ESTIMATION OF ALCOHOL.†

By T. T. MONEILL.

If a cobalt salt be added to an alcoholic solution of sulphocyanide of ammonium, a deep blue colouration is produced which suddenly vanishes on dilution with water, and re-appears on further addition of alcohol. Given the same volume, spirit of a certain percentage always gives precisely the same intensity of colour with a standard blue solution in whichever order alcohol or water may be added. It is possible in this way to determine quickly by a volumetric process even so little as one-fourth per cent. of alcohol in a mixture. A measured quantity of the dark blue standard fluid is placed in a cylinder, and the mixture to be tested is added until the colour is reduced to that of a strip of pale blue glass; the volume of this pale coloured fluid will be the greater as the mixture is richer in alcohol. This volume, once determined, will always remain the same, and the percentage noted on the cylinder may afterwards be read off without further trouble. The standard fluid is always prepared with spirit of the same strength and compared with the same strip of blue glass. The nitrate of cobalt is the salt found most convenient for this purpose. Coloured brandy may be tested directly; in this case the tint is not blue, however, but green. Two cylinders are therefore necessary, one for the test and one to give the desired tint in conjunction with the blue glass. The cobalt solution may be either neutral or slightly acid, but should contain as little water as possible.

ON SOME TESTS FOR FIXED OILS.

By MR. WILLIAM GILMOUR, EDINBURGH.

THE object of the present paper is not so much to overhaul and pick faults with the various methods of testing fixed oils which have been suggested from time to time by different investigators as to endeavour to supplement what is already known by bringing before you several interesting features and reactions of some of these oils, which a somewhat lengthened series of observations and experiments have discovered to the writer. None of the tests, I need scarcely observe, which have hitherto been proposed to distinguish the different oils, or detect adulterations where such exist, are altogether to be depended upon, and therefore the subject is of sufficient importance to excuse me introducing it without further observation or apology.

Probably one of the greatest difficulties with which any one investigating the reactions of fixed oils has to contend (apart altogether from any question of adulteration) is the variation to be found in the quality as well as in the constituents of many of the oils themselves. Investigation is thus rendered more than sufficiently laborious and uncertain, although it is but right to confess that the uncertainty has at least this advantage, namely, that it makes one somewhat sceptical of all previous conclusions, and even of one's own when not supported by an indefinite number of experiments on an unlimited number of samples. For me to pretend, therefore, to have undertaken an exhaustive inquiry into the reactions of all the fixed oils with the reagents which have been approved would simply, under the circumstances, be absurd, but if, instead, I am able to point

out one or two of the primary causes of the variations referred to in the constituents and character of some of the oils, I will probably be doing a service of no less importance, whilst in the end it may be of greater practical utility. I may state at the very commencement that the principal motive which induced me to begin an investigation of this kind at all was neither any special liking for investigation in itself or for this subject in particular, but the accidental discovery that some oils under the spectroscope yielded very characteristic and beautiful absorption spectra. The spectra in some cases were very marked, in others faint, in others still quite wanting, and this variation obtaining not only in different oils but also in different samples of the same oils, was sufficiently interesting to induce me to extend my investigations in as many different directions and under as many different conditions as possible.

Shortly stated, the results I obtained from a general investigation of all the commercial oils of any importance were these:—No animal or mineral oils gave absorption bands when in a state of purity, but most vegetable oils yielded one or more bands, together with a greater or less amount of absorption at the extremes of the spectrum. In the case of those oils belonging to the vegetable kingdom which yielded no bands, such as castor oil, I have every reason to believe that they are removed in the process of clarification or bleaching to which most of them are subjected. At least, from experiments which I made, and to which I will have occasion afterwards to refer, I found that the bands could only be removed (without absolutely destroying the quality of the oils) by a process of bleaching and exposure, to which all these oils, it is well known, are subjected, and therefore the probability is that they would be found in such oils also if in the natural state. The absorption spectra thus afford a rough but not an absolutely certain method of discriminating betwixt an animal and a vegetable oil, for although an animal oil should not exhibit the bands under any conditions, the vegetable oils, from the circumstances mentioned, may likewise be destitute of them, so that the rule must be accepted with limitations. Still, as I have not unfrequently found, in the course of my investigations, absorption bands present in commercial samples of different animal oils, a preliminary examination of such under the spectroscope is a certain and easy method of detecting the sophistication, and will doubtless be appreciated and fully taken advantage of by the dealers in those oils.

A moment's consideration of the nature of these bands will not only show why they should be found present in vegetable oils alone, but will probably also help us to a proper conclusion as to how far their presence or absence in this class of oils is a mark of purity or the reverse. The substance to which all vegetable oils owe their bands is a green colouring matter called chlorophyll, found most abundantly in the green leaves, but also in other parts of plants as well. This chlorophyll is soluble in most oils, and more than probably finds its way into the seeds and fruits from which the oils are obtained by the ordinary process of circulation. Indeed, I think the presence of this chlorophyll in almost all oils, whether derived from the seeds or fruits of plants, affords very strong proof that the theory so long ago held by Dumas, "that the green leaves were the only parts in which the fat and oils are originally generated," is the correct one. The oil is formed in the leaves by the absorption and assimilation of its proper constituents from the atmosphere, and this chlorophyll, which is also present in the leaves in considerable abundance, although it is not clearly known what its precise functions are, is partly removed along with it in the process of circulation and ultimately deposited in the seeds and fruits, the receptacles, so to speak, of the oil. Its presence even in seeds and kernels is thus satisfactorily accounted for; but this in passing. Chlorophyll gives even in very weak solutions one very dark band of considerable breadth immediately behind the dark band B of the solar spectrum. This band is very characteristic, and will mark the presence of chlorophyll in almost any combination in very minute quantity. If the solution be stronger other three well defined dark bands will make their appearance—one in the orange, between c and D, another a little behind D, and a fourth in the green, close before E. In the case of all the oils which I have examined three of the bands at the most have only been visible, and of these the first in the red is by far the darkest and most persistent, the third band, at D, being next in order, whilst the second, in the orange, between c and D, was in most cases exceedingly delicate, and in several even wanting. These bands were permanent so far as regards their position, but, as

* Pharm. Cent.-Anzeiger, December 11, 1875, from Pharm. Centrall.

† Zeitschrift des österreich. Apoth.-Ver., September 20, 1876, p. 428; from Amer. Chemist.

already stated, they varied very considerably as regards both intensity and breadth in the different oils, as well as in different samples of the same oils. In endeavouring to determine how far the presence and intensity of these bands were indicative of the purity of the oil in which they were found, I chose olive as a representative oil on which to conduct my experiments, and making a preliminary investigation of upwards of thirty different samples, I found (a) that every one contained the first dark band, and that in the majority of cases it was very decided, and of some considerable breadth; (b) that only about two-thirds contained the second dark band, and even in the samples in which it was present the majority contained a mere trace, and only one or two were decided, either as regards depth of darkness or breadth of space; (c) and lastly, that the majority contained the third dark band of some intensity and breadth, only one or two being entirely destitute of it, the latter as well as those in which the bands were faint, corresponding to those in which the second band was missing. Thus far there was a certain harmony in the majority of the samples, but on closer examination it was soon found to be a harmony with very considerable diversity, for this reason, that though the relative intensities of the three bands in the different samples were proportional, there was in almost every case some important feature which made each spectrum stand out quite characteristically and distinct. Under these circumstances it was absolutely necessary that something should be known of the oils operated upon, if correct conclusions were to be arrived at regarding the causes producing these variations, and I was fortunate enough to obtain, through the courtesy of several importing firms, different samples, to the history and genuineness of which some degree of certainty could be attached. These all exhibited, with slight variations, band 1, very decided, and of considerable breadth; band 2, faint, but quite perceptible; and band 3, intermediate betwixt the two former, whilst in other respects, I need scarcely observe, they gave every indication of being what they truly were, very superior "cream" oils. Incorporating them severally in the first instance with the caustic alkalies, the bands I found thinned considerably, and when the treatment was continued for some short time the two more delicate bands quickly disappeared, and ultimately, though much more slowly, band 1 itself. It is not unimportant that we should notice this modifying and softening influence exerted by the alkalies, bearing in mind that both caustic soda and potash are largely used as refining agents in the case of the coarser oils. These coarser oils (comprising Gallipoli and others), when in the natural state, and unchanged either by artificial or inherent causes, always present a spectrum much more marked than in the case of the finer oils; and therefore it is fortunate that the refining process referred to, as we shall immediately see, is always accompanied, and very probably hastened, by a change in the constituents of the oil itself. Whether this change is caused by the action of the alkalies alone, or by the alkalies combined with atmospheric influence, I have not yet been able entirely to determine, although I am inclined to think that both probably exert somewhat active decomposing properties, for on exposing a fresh portion of each of the oils in the second instance in bottles hermetically closed, to direct sunshine, I found that in the case of the finer oils six hours' exposure was sufficient to remove every trace of a band, whilst in the case of the inferior oils, the two more delicate bands had disappeared in the same space of time, the first band, however, remaining still very decided, the spectrum in both cases having at the same time in several respects materially changed in character. The action was much more energetic when the oils were exposed in open vessels, decolourisation not only taking place more quickly, but the spectrum assuming in this instance a most peculiar modification towards the violet end, which I have not witnessed under other conditions. It not only became considerably elongated, but immediately behind *r* of the solar spectrum there appeared a peculiar dark shading, extending over a considerable space, and most intense towards the violet end, this dark shading being again followed by a bright space previous to ultimate absorption in the blue of the spectrum. Up to this point, which certainly was the stage next to unmistakable external indication of decomposition of the oils, the various modifications which they had undergone, and which were thus exhibited in the spectroscopic, had a most remarkable bearing on the application of the ordinary reagents employed in testing these oils. The well-known greenish colouration, for example, which sulphuric acid and caustic soda give rise to, can in no case be produced in olive oils whose bands from any of

the causes indicated have been removed, whilst the other changes in the spectrum just referred to indicate a point at which the solidifying action of nitrate of mercury ceases to operate, and the test in consequence can no longer be depended upon. The ordinary tests for distinguishing olive oils must therefore be accepted, not so much as tests of purity, as tests indicative of the oils being in their natural state, unchanged either by exposure to light or to chemical agents employed for the purpose of refining them. They may consequently be advantageously superseded by a spectral examination, as being not only much more simple in its application and delicate in its results, but as also affording a more certain criterion in other respects of their purity. Of their purity, because if the oils are not in their normal state they will present bands either too broad and dark or too much attenuated; but whether the one or the other, there may be, in addition to the impurity and coarseness, or the decomposition which they respectively indicate, the further possibility of sophistication. I have not overlooked this possibility in my investigations into olive oil, and have, in consequence, studied somewhat minutely, not only the spectra of other oils, but their combination also in various proportions with olive oil. The conclusions which I have arrived at do not make me over sanguine that a spectral examination (any more than other agents which have been suggested for the same purpose) will of itself accomplish much in the way of detecting any individual adulterant, for the simple reason that, unlike a chemical substance, no known oil is presented to us as a stable body. What has been already said of olive oils applies to all the other oils as well. They are all susceptible to change, in most cases very susceptible on exposure; and moreover, they contain in the very time, place, and mode of their extraction many primary elements of uncertainty and instability. In saying this, however, it must, I think, be admitted that a spectral examination of itself wonderfully restricts the limits of adulteration, whilst in conjunction with other recognised agents its action is much more certain and valuable still. The commercial value of an oil, as well as its general adaptability for adulterating purposes, are of themselves, I need scarcely point out, two circumstances which necessarily limit the area of adulteration. An oil of greater market value need never be expected present in one of less value, nor a rancid or strong flavoured oil in one sweet and fine. Consequently the number which may be employed to adulterate olive oils is not so great but that we might guess at the probable adulterant by the help of the spectroscopic and in other ways. Lard oil, for example, might be employed, but lard oil gives no absorption bands, and just in proportion to the amount in which it might be present in olive oil so would its bands be weakened. Nut oil or sesame might be employed, but these yield very faint bands (if any), and the same objection would hold good as in the previous case. Colza, poppy, cotton, or niger seed might be employed, and these all closely approximate to olive oil optically, but they differ somewhat materially from it and from each other in various respects. The specific gravity, for one thing, of all the different samples of olive oil which I have examined has never gone beyond .914, whilst poppy, taking an average, has attained .925; cotton seed, .921; niger seed, .926; and colza, .914. Colza, then, in this respect approaches olive, but colza is a sulphuretted oil, and even in very minute quantities may be detected by the ordinary tests. Poppy, again, yields beautiful iridescent bubbles on agitation, resembling an essential oil, whilst cotton thickens, even at comparatively high temperatures, more readily than any other oil I know. So far as the other oils are concerned, and, indeed, for that part of it, so far as all the different oils mentioned are concerned, the following reactions with sulphuric acid will be found useful. I was led into investigation in this direction in endeavouring to ascertain how far sulphuric acid acted on the absorption bands referred to, and although much that I have seen and noted is entirely of a preliminary nature, I have still seen sufficient to feel assured that there remains in this direction a wide field for study.

Taking, for example, one volume of strong sulphuric acid to six of oil, and mixing thoroughly, the mixture, after a few minutes, in the case of all the oils after mentioned, assumed a dark sonna syrup appearance, in some cases dull, in others sparkling in colour, and also more or less viscid, but none of them sufficiently marked to be characteristic. Allowing them thus to stand in contact for about fifteen minutes, and then mixing with six or eight times their volume of water and thoroughly saponifying, lard, nut, and almond were a pure

whito thick mass; olive and Gallipoli, a cream; niger, poppy, and cotton seed, a yellowish green; sesame, from a calamine to a pumice; colza and linseed, a dirty, clotted cream. Next, setting these aside for some hours to clarify, the oils again separated from the water, in the case of olive, Gallipoli, niger, and cotton, a beautiful dark sherry colour, differing somewhat in degree of shade, but not much, olive and Gallipoli, however, being pure, either with transmitted or reflected light, whilst niger and cotton had with reflected light a peculiar opalescent appearance. Lard, almond, and nut, again, were a bright sparkling golden colour, quite unlike these oils in the natural state, and entirely different also from the foregoing. Sesame did not clarify, but remained permanently of a dirty, opaque, pinkish brown, whilst poppy, colza, and linseed were all very dark, poppy being opaque, linseed very opalescent with reflected light, and colza almost black. It may be interesting to note here in passing how persistent the absorption bands are when acted on by chemical agents in comparison with the action of sunlight or atmospheric influence. Six hours' simple exposure, as we have already shown, removed every trace of a band, and yet after many hours' exposure to the action of sulphuric acid, as just indicated, the darker band was still quite apparent in the spectroscope. It was this fact which led me to set aside for exposure the oils thus acted upon by the acid, for the purpose of trying to ascertain how long it would take to remove the bands still visible. I did not succeed in this, although I dare say it mattered the less, as I believe it would have been of little practical value. I found, however, that the oils thus clarified after some short time changed in nature, doubtless owing to some acid still remaining present in the oils (for although bright and pure in colour they were of increased density, and still retained a strong acid reaction), and they ultimately assumed various degrees of consistence, colour, appearance, &c., in most cases very distinctive. Almond, nut, and lard, for example, which, in the former tests, are grouped together, were now readily distinguishable, for lard thickened into a dirty yellowish mass, nut pure white, whilst almond assumed a beautiful crystalline appearance, possessing a marked though irregular double refracting structure. Nut oil is an oil not likely to be adulterated, but a mixture with even a minute quantity of any other oil tinted the pure white produced when it was in a state of purity. The almond oil reaction is, however, very important, for apart from the value of the oil and its liability in consequence to adulteration, the test is exceedingly delicate and decidedly characteristic. Even a minute portion of any other oil whatever will destroy the crystalline structure; neither will it form if the oil has changed, as it is apt to do from exposure and other causes. Of the other oils, olive and lard were a dirty white; cotton and Gallipoli a yellowish green; niger seed the same, but on exposure to air the surface quickly changed to light brown; poppy a very dark; sesame a calamine brown; colza a pale sherry fluid underneath and a yellowish green semi-solid mass above; linseed a very dark thick fluid underneath, with a bright yellowish fluid above. Without recapitulating, I may point out that, taking these several reactions together, namely—1st. The appearance on saponification when the water is added to the mixed oils and acid; 2nd. The appearance on clarification; and 3rd. The appearance on allowing the clarified oils to stand and thicken—a very close indication will be given as to the purity of the more valuable oils. It may further be worthy of note that although as a rule a much higher temperature is developed by drying oils, such as linseed, nut, poppy, &c., when in contact with sulphuric acid than is the case with non-drying oils, such as olive, rape, almond, &c., the test is a very uncertain one, to say the least. Occasionally I have found apparently under similar conditions and with the same oils the temperature increase so much as to decompose the acid, though it generally, under other circumstances, might not reach over 80° or 90°. I cannot account for this variation in temperature, as I was always particularly careful in my manipulations, but it proves the uncertainty of the test. Before passing from the sulphuric acid test, I may be allowed to refer to its action on sperm oil, although I have purposely avoided including fish oils in the foregoing reactions. If sperm oil be treated with sulphuric acid in the same way as the foregoing oils, cetin will be developed, which, if carefully washed, dried, and estimated, will, I believe, give a very good indication of the purity of the oil. Sperm oil, so far as regards direct adulteration, is about as unsatisfactory an oil as anyone need care to have in their possession, and, considering its commercial value, a test which could

be depended upon, I need scarcely say, would be of some considerable importance. The specific gravity of a considerable number of samples which I operated upon ranged from '880 to '896, and the amount of cetin obtained ranged from 4 per cent. downwards, some of the samples giving no indication whatever of its presence. As showing how fallacious the specific gravity test is as regards this oil, I may state that in the samples yielding the highest percentage of cetin it ranged from '880 to '886, whilst two of the samples yielding none were '882 and '896 respectively. I have not as yet had an opportunity of applying the sulphuric acid test to a sample on which I could place any dependence as to purity, and I therefore cannot speak as to the actual amount of cetin present in a genuine oil. Probably it may vary somewhat, but this is for further investigation to determine. What I wish more immediately to draw attention to is the fact that, in a very large number of experiments, I have in every case, with the same sample, recovered nearly a uniform percentage, so that it appears reasonable to assume that the test may prove of some use in determining the purity of this oil.

In drawing to a close this hasty and somewhat imperfect sketch of a lengthened series of investigations, I would again refer to the deleterious action of both sunlight and atmospheric influence, but especially the former, on all the foregoing oils, for the purpose of shewing the necessity for care in the keeping and storing of them. It has been generally believed that olive and almond, for example, are not very susceptible to change; but these experiments undoubtedly prove the very opposite to be the case. They may certainly, with care, be kept good for even years (I have a sample of "cream" olive at present nearly three years of age, equal to any of the present year's stock, but it has been preserved carefully from both light and air), and even when exposed to diffused light the action is slow, but immediately they are exposed to sunlight, a very short time indeed will produce a change in their nature. Strange to say, I received striking, though indirect, confirmation of this quite recently from a gentleman who, knowing I had been making some investigations into olive oils, consulted me as to the best kind of bottle in which to send out the finer oils. His firm did a very large trade in bottled oil for salads, and do as they liked they had repeated complaints from customers of the sweet nutty flavour leaving the oil after a time. The blame, I may shortly say, was not due to the action of the glass, as they were inclined to believe, but to the mischievous habit of exposing the bottles in windows and other places in which the sun had full play upon the oils.

ERGOTISATION OF GRAIN AND GRASS.

COMMUNICATED BY W. B. A. SCOTT, M.D.

THE subjoined essay was deemed the best of three sent into the Canterbury (New Zealand) Agricultural and Pastoral Association in answer to their offer of a prize. It was written by Mr. Thomas Mann, and was printed in the *Canterbury Times* (N. Z.), of August 26:—

In writing the subjoined report I have endeavoured, as far as possible, to confine my remarks to some of the most important facts connected with this interesting subject. These I will give under the following heads:—1. What ergot is and how produced; 2. Its effects on the animal economy; 3. How to prevent or mitigate injury to stock by ergot.

1. *What Ergot is and how Produced.*—There is much difference of opinion regarding the nature and cause of ergot, but in the following remarks I shall only briefly notice those views which appear at present to be most generally received.

The earliest symptoms of the disease occur about the time of blooming, when the young seed is observed to be covered with a brown powdery matter (the spores or seeds of a fungus), which gives the grain or seed a mildewed appearance, arrests its natural growth, and causes its abortion. This aborted embryo gradually increases in size, passes out beyond the paloa or husk, becomes more and more deformed, acquires a purple or brown colour, and forms the ergot or spur, which name is derived from ergot, French for spur, as it resembles the spur of the cock.

The disease is now generally believed to be caused, in the first instance, by a small insect, which punctures the vegetable tissue for the purpose of depositing its eggs beneath the

epidermis of the living plant, thus inducing a morbid action in those parts. This affords us a remarkable, though not an uncommon, example of how slight an alteration in the proportions in which certain elements are combined may make a material difference in the properties of the same body (*sic*). Other instances are supplied by the oak-apple of the old country, the production of which is caused by a small grub; also the delicate and beautiful briar-ball. The useful and important article of commerce, the gall nut, which is obtained from the oak, is produced by a like cause; so also are the ear cockle purples, or peppercorns, in wheat, as they are generally termed. Regarding the last-named Professor Henslow, in his report, published in the second Journal of the Royal Agricultural Society of England, states that upon opening the blighted grains he found them to contain a moist, white, cottony substance, but no flour. Upon placing this cottony mass in a drop of water under his microscope, much to his surprise he found it was composed of a multitude of minute oel-shaped animalcules, which were in active movement; and on further inquiry he learned that several other persons had previously discovered that such was universally the case with all grain similarly affected.

Again, the maggots of the wheat midge, in seasons favourable for its operations, destroy thousands of bushels in the old country. They consume and destroy the grain in its earliest stage, and there their mischief ends. This result is totally different from the effects produced by the insects previously alluded to; or, indeed, by many kinds of parasitical fungi, which convert wholesome food into a poisonous compound, such as ergoted grain and grass most certainly are. As I have previously stated, a mouldy, mildewed appearance is generally the first change noticeable in the grass being affected; but whether this fungus affection be the primary cause of ergot or not I do not consider of great importance. Certain it is that ergot is always covered with a little acarus which eats the interior of the seed. Still, we should bear in mind that fungi such as cause mildew and mould-sweat in wheat, or acarus, &c., do not spring up spontaneously, and are not indigenous to this country, but are imported and propagated. Anyone who should check the spread of such would be doing his country good service. A single smut-ball contains millions of spores, which are liable to be spread in all directions. Smut affects the seed of grain and grasses before they are sown, hence the importance of obtaining clean seed or purifying such as may be affected; and, doubtless, good will result from the present investigation, although all the information wished for may not be obtained.

Warm, wet seasons are favourable, if not indispensable, to the production of ergot, and under such circumstances few kinds of grain or grasses are exempt from its attack. We have lately read of maize in some parts of America being seriously diseased with it. Morton, in his "Cyclopædia of Agriculture," published 20 years since, states that different grasses in this country (New Zealand) were at that time affected by it.

The extent of the injury done to the oat crop, and occasionally to the wheat, varies much, sometimes only a few grains in each head being diseased, sometimes scarcely one being altogether sound. Rye is unusually susceptible to the disease, being attacked more often, and to a greater extent, than any other grain. The same also is generally the case with rye grass among the grasses, and Rivet wheat amongst the wheats.

2. *Its Effects on the Animal Economy.*—Ergot is a poison, but neither so certain nor so powerful in its effects upon the lower animals as upon man.

In the hands of a medical man it is a valuable adjunct in hæmorrhage and similar affections, but chiefly on account of its undoubted action on the womb. It is occasionally used in veterinary practice, but, having so much less effect upon the lower animals, it is not of great value as a medicine. Nevertheless, Mr. Youatt advises every practitioner and farmer to have it at hand. All animals have a great aversion to it. Pigs have been known to famish rather than eat food which contained a mixture of it. Its colour, especially when in powder, is dull and nasty (*sic*). It is bitter and disagreeable when chewed, and, when given in single large doses, it causes local irritation of the parts with which it comes into contact, and subsequently affects the nervous system, especially the spinal cord.

When ergot is taken by stock in their food for some time continuously, it produces somewhat different symptoms from those which follow its administration in single doses.

The effects of ergot on man, taken continuously, as it occasionally has been in rye-bread, &c., in the old country, are fearful to relate. Two cases are recorded in the second volume of the Journal of the Royal Agricultural Society of England, in which twelve persons, members of two separate families, lost their lives from eating bread made from ergoted rye. The flesh on their legs mortified, leaving the bones bare; in some instances their extremities rotted off at the joints, and a considerable time elapsed before the shapeless trunk was released from its torment. Numerous other instances might be given of the injurious effects of ergot on the human system, but, thanks to the greatly improved bread food of the million, of late years such cases have become very rare.

I have heard of persons in this province being seriously affected by eating bread that contained darnel. The symptoms were very similar to those caused by ergot, only less developed, particularly irritation, convulsive tremor, coldness of the extremities, &c. The cause being discovered, pure bread was substituted, and they all shortly recovered. I have mentioned this case, as I think it highly probable that the effects of "drunken darnel," as it is called in England, may sometimes have been mistaken here for those of ergot. I will here state what darnel is, for the information of those who may not be acquainted with it. It is an annual weed, a species of rye-grass, of robust growth, having stout erect stems from two to three feet in height, furnished with awned or bearded seeds, similar in size and form to light and inferior wheat. It is now, however, banished from the soil by good husbandry. Darnel has a somewhat similar effect upon cattle and sheep to that which it produces on man, but it is seldom met with in sufficient quantities to injure them seriously.

If ergoted food be taken by stock for any length of time, it causes impaired appetite, a weak, irregular pulse, soon becoming intermittent, excessive fætor of the secretions and excretions, paralysis, particularly of the hinder extremities, enlargement of the liver, contraction of the spleen, formation of tubercles both in the lungs and mesentery, impairment of all the senses, wasting, and general debility. It is also often believed to be the cause of abortion; death generally ensues from paralysis of the heart. Sheep affected by it struggle and tumble about, often fall into gullies, &c., and are drowned. It is indeed a strange sight to see a flock of sheep affected by it put in motion, for no sooner does a dog approach a mob than a large portion of them will be seen on the ground, kicking and pitching about, in a half-paralysed, helpless state, which state is caused by a softening of the brain or spinal cord, or the pressure on these important organs from fluid effused, the result of a deranged system, caused by the ergot poison imbibed.

Should medical treatment be determined on, the course to pursue will be to administer mild active purgatives at once, so as to rid the system as far as possible of the poison. A second dose should be given in the course of a few days or a week, with the addition of a little tonic medicine, such as sulphate of iron or gentian: ʒj. of each might be given with advantage to a sheep. Epsom salts, given in linseed gruel, with the addition of a little ground ginger, is by far the safest and best purgative that can be given to cattle or sheep in disorders of this kind. At the same time, they should be supplied with nutritious and wholesome food.

3. *How to Prevent or Mitigate Injury to Stock by Ergot.*—Knowing, as we do, that ergoted food is unwholesome and poisonous, and that stock rarely eat it unless driven to it for want of better, or occasionally, as it were, by mistake, we must, consequently, in order to remedy the evil, as far as possible remove the cause. This will best be done by providing them with more suitable food, &c., which may be done in a variety of ways, some of which I will presently mention; also, by carefully guarding against overstocking, and, where practicable, by removing them to high and dry situations in wet weather, &c.

I am now more particularly speaking of sheep (especially young ones), which are more liable to receive injury, and such need and deserve our best attention, and will, I believe, give a better return for good treatment than any other kind of stock. Instead of expecting, and endeavouring to force, them to improve and make the land for us, as, I believe, is sometimes the case, we should, as far as possible, improve the pastures, &c., for them. Fortunately the soil and climate of New Zealand are well adapted to the growth of a great variety of plants suitable for that purpose, which are unaffected by ergot—such as every variety of clover, including cow-grass, trefoil, sainfoin,

lucerne, and the like—the best seed obtainable being used. At the present time a vast quantity of inferior and damaged grass seed is sown, and this may possibly have something to do with the spread of ergot. We all know that a single smut ball is sufficient to affect a sack of wheat, and that grass seeds are liable to be similarly affected from that and many other diseases. Hence, too great care cannot be taken in selecting such seeds for sowing. And I would here call the attention of stock owners generally to a most valuable paper on the grasses and forage plants best adapted to New Zealand, read by Mr. R. Wilkin at a meeting of the Canterbury Agricultural and Pastoral Association a short time since, which is now in print. I am aware that I am drifting somewhat from the central point of inquiry, but I have done so considering prevention better than cure, and believing as I do that it is to the former that we must principally look for relief, although I do not think it probable that so long as existing causes are in operation we can reasonably hope to be entirely free from ergot, or our stock from its effects. Still, a great deal may doubtless be done to check its progress; for the more pastures that are rendered free from disease by judicious management the less likely are others to become affected. The same remark will apply to stock. As every organised structure becomes more exposed to diseased influences it loses the condition necessary to perfect growth and healthy nutrition: the separation of the diseased from the healthy is always advisable, let the ailment be what it may.

Frequent mowings would greatly check the spread of ergot; the pasture should be improved, and dry food provided for the stock; the latter, at certain seasons of the year, they greatly need, especially in this province. Instances have occurred here where a flock of sheep have had the run to a stack of straw, and consumed the greater portion of it, and derived great benefit from so doing. Salt is also highly conducive to their health, and lumps should be placed within their reach, so that they could have a lick when they require it. The expense would be but trifling, and the benefit would be great. It would be found that they would occasionally travel miles to get to a lump of rock salt, and having it they would be less liable to be injured by ergot.

Some pastures would be greatly improved by the application of a little lime, others by a dressing of crushed bones; and, though I have only been a short time in the colony, I have learned that good crops of clover are now grown on land that had been completely cropped out by repeatedly sowing it with wheat and rye-grass. It was afterwards sown with turnip and rape, followed with clover, which has been occasionally mown. The soil is now greatly enriched, free from weeds, and carries four times the stock that it formerly did, while the weight of wool has increased six-fold, and ergot has ceased to be injurious.

To sum up, ergot is a disease occasionally found in all kinds of grasses and many sorts of grain, in most countries.

Grasses in this country (New Zealand) have been more or less affected by ergot since the importation of seed from abroad.

Its spread may be checked by the growing of such plants as are free from the disease.

* *

The above is the essay which has obtained the prize offered by the Canterbury Agricultural and Pastoral Association. While brevity is always commendable, still, in a prize essay on such a subject as that proposed, we might have expected some notice of the teeming literature to which the frightful epidemics of raphania due to the use of ergotised grain which raged in France and Germany during great part of last century, gave rise; the labours of Linnæus, at least, might have been referred to, who first gave the ailment its now familiar name, derived from the fungus which he supposed to be the cause of the vegetable disease, just as the term ergot itself was applied to the acute form of the malady in France. A certain carelessness of expression, too, is sometimes observable; thus, *e.g.*, to speak of a body as "the same" after an "alteration in the proportion of its constituent elements," however slight, has occurred, is, as Mr. Mann is doubtless well aware, to ignore the law of constant or definite proportion in chemical combination. Again, it is rather singular that the author should profess to regard the question of the fungoid origin of the disease as of "no great importance," when in the very next sentences he adduces arguments which demonstrate this identical question to be of perhaps actually the greatest importance of any from a practical point of view. He likewise fails to notice the very essential differences presented by the disease, according to the kind of grain in which

it occurs, a point strongly insisted on by the writers on this subject in the last century, and in his account of the effects of ergot on animals omits all mention of the gangrene which F. Salerne observed it to produce in pigs. His treatment of the disease in cattle by means of evacuates followed by tonics resembles that which Mulcaille adopted on the human subject, with the exception that Mulcaille preferred blood-letting to purgatives. If, as seems a reasonable hypothesis, the disastrous effects of ergot are in the main due to the contracting power which it unquestionably exerts over some of the involuntary muscular structures extending itself to the muscular coats of the arteries, thereby diminishing the supply of blood to the various limbs and organs, causing atrophy and gangrene, the vascular relaxation consequent upon blood-letting might *a priori* be expected to prove beneficial, but as the effects of any one venesection would be but transient, the more gradual administration of some drug which relaxes the involuntary muscles, as, *e.g.*, belladonna, would seem preferable on theoretical grounds, both on account of its more regular and persistent action, and also through saving the already weakened frame from further impoverishment by the loss of blood.

Mr. Mann's essay seems well calculated to be practically useful, and its brevity is certain to recommend it to the very persons who are most likely to derive benefit from its suggestions. It is certainly capable of expansion with advantage, but this is a fault on the right side, and the Canterbury Agricultural and Pastoral Association may be congratulated on having, by their judicious liberality, called forth a brochure containing several excellent practical suggestions on a subject of much importance to the interests of the colony.

BALSAM COPAIBA: A METHOD OF DETECTING AND ESTIMATING CASTOR AND OTHER FIXED OILS IN IT.

[Read before the Society of Public Analysts, November 15, 1876].

BY DR. MUTER.*

THIS oleo-resin, commonly but wrongly termed a balsam, has been said in books for many years back to be subject to admixture with fixed oils, especially castor oil. The British Pharmacopœia furnishes a qualitative method of examination, but the tests are in practice totally insufficient, as the exact degree of rectification of the benzole (an important point) is not stated, and the difference between a pure balsam stain and that with a small percentage of oil is very slight, unless the two are observed side by side. The other methods which have been proposed may be summarised as follows:—

1. Pure balsam gives a translucent and not an opaque emulsion, with strong solution of ammonia.

2. Pure balsam, if boiled with water for some hours, leaves a tenacious resin.

3. The specific gravity.

The latter test is entirely fallacious, owing to the great variation in commercial samples, and the others, though possibly characteristic with large admixtures, fail with anything under 20 per cent.

Observing the close affinity between copaivic and pinic acids, it struck me that advantage might be taken of the difference of solubility of the sodium soaps in certain menstrua. A very good solvent for sodium pinate has been discovered by M. Barfoed to be a mixture of five parts by volume of absolute ether and one part absolute alcohol, which, moreover, only dissolves sodium oleate to an exact extent corresponding to 1 in 1,000 of oleic acid. I will not occupy space by detailing at length the numerous experiments on a great number of samples of balsam, varying in age and colour, from every known commercial source, but the whole thing ended in the certain conclusion that besides the essential oil (which is dissipated in the process of analysis) good commercial balsam contains only copaivic acid, which forms a sodium salt, instantly soluble in the ether-alcohol mixture, and a little altered resin not so readily saponifiable, forming a salt only slowly soluble. The amount of this second resin I have found to vary slightly, and in very old samples, especially of Maranhão balsam, may sometimes

* From the Analyst.

amount to 5 per cent., although usually really less. Going upon the principle that in performing any official analysis the lowest commercial standard should be taken, I have adopted 6 per cent. as the highest possible quantity of the second resin ever existing in any sample of balsam still having a trace of odour remaining. This wide standard may sometimes lead to an under estimation of the oil by 2 or 3 per cent., but renders any over estimation impossible.

The actual process I employ is as follows:—3 to 4 grammes of the sample are weighed into a clean dry flask, and saponified on the water bath with 50 c.c. of alcohol and a lump of caustic soda, weighing not less than 5 grammes. When all is dissolved water is added, and the whole washed into a half-pint basin so as to nearly fill it, and evaporated to 100 c.c. over a low gas flame. Dilute sulphuric acid is then added till the whole just becomes permanently turbid, and then solution of caustic soda is dropped in till it just clears again. By this means a solution is obtained with the least possible excess of alkali, and with a good amount of sodium sulphate. The whole is now evaporated to perfect dryness [the best way to ensure absolute dryness is to moisten the apparently dry residue with a few drops of absolute alcohol and again dry] on the water bath, stirring towards the end, so that the sulphate may mix with the soaps and produce an easily pulverulent residue. The residue is removed from the basin into a small wide-mouthed stoppered bottle, and treated with 70 c.c. of other-alcohol, and well shaken up. As soon as it is fairly settled the fluid is filtered off through a quick filter, and this is repeated with two successive quantities of 70 c.c., making 210 c.c. in all of the solvent used. The residue in the bottle and on the filter now consists of sodium oleate and sulphate if the balsam be impure, and of the latter only if pure, with a little trace of the insoluble resin soap already referred to. The contents of the bottle and filter are then dissolved in warm water, and after heating until all smell of ether is gone, the whole is boiled, freely acidulated with hydrochloric acid, and set to cool. If, when cold, nothing but a few specks of brown resin should rise to the surface, the balsam is pure, but if an oily layer be formed it is adulterated, and the smell of the separated oleic acid will at once determine whether it is actually castor oil or not. In the case of the presence of oil two grammes of pure and dry white wax are added, and the whole heated till the wax melts with the oleic acid. On cooling, a solid cake is formed, which is detached from the side of the beaker, and the fluid below passed through a filter. The cake is once more melted in boiling water, cooled, detached, dried by gentle pressure in blotting paper, put into the water oven in a weighed platinum dish till dry, and then weighed, and the weight of the wax used deducted. The beaker, filter and rod, &c., used are, if at all dirty, dried, extracted with ether, and the residue left after evaporation weighed and added to the total.

The calculation is then performed as follows:—

1. To the weight in grammes found add .20 for loss of oleic acid in solvent, and then say as

95 : 100 :: total oleic acid.

2. Calculate to per cent. from the quantity taken, and from the total percentage deduct 6 per cent. for possible altered resin in the balsam.

Out of the whole number of samples I have analysed I have selected the following 12, as being fair representations of the degree of accuracy obtainable by the process. The error owing to the correction of course increases with the amount of oil present, but it is always an error in the direction of under estimation, which is the great point for public analysts.

Nature of Sample	Calculated	Found
Para (pale)	Pure	No oil drops
Para (pale)	23.60 per cent. castor ..	23.50
Old Para (dark)	Pure	No oil drops
Old Para (dark)	51.0 per cent. castor ..	50.0 p. cent.
Carthage (medium)	Pure	No oil drops
Carthage (medium)	21.5 per cent. castor ..	21.20
Maranham (pale)	Pure	No oil drops
Maranham (pale)	26.5 per cent. castor ..	26.27
Old Maranham (darkish, very little odour)	Pure	No oil drops
Old Maranham (darkish, very little odour)	47.3 per cent. castor ..	46.4
Para (fine pale)	Pure	No oil drops
Para (fine pale)	21.4 per cent. lard oil ..	20.9

In conclusion, I may say that the process, although it looks formidable, is in practice very simple, and for all ordinary

purposes, if the beaker be well scraped out, the weight of the main cake may be taken as sufficient to give an analysis true within 3 per cent. below the real amount, which is accurate enough for public purposes, and saves time and the expense of the extra ether. Unless oil actually floats and remains on cooling in fluid drops, after adding the hydrochloric acid, the sample may be passed as good.

When working on 3 to 4 grammes, with an admixture of not over 25 per cent., the errors due to loss of oleic acid and insoluble resin soap respectively so nearly balance each other that any correction is unnecessary, and the actual amount of oleic acid found may be taken as correct within 1 per cent.

Mr. HEHNER stated that he had experience of Barfoed's process for the analysis of resin soaps, and had found it successful, and he had no doubt that if copaiba behaved like resin the process would be reliable.

Dr. BARTLETT thought it a very good process, so long as no other foreign substance was present, but feared that the presence of boric acid might be found to interfere seriously with its accuracy, as he had sometimes found to be the case in soap analysis.

Dr. DUPRÉ inquired whether the testing of the ethereal solution would give any data for estimating the proportion of added resin (if any).

Dr. MUTER, in reply, said he had not yet tested the ethereal solution for resin, so as to ascertain if any had been added, but Dr. Dupré must remember that it was the detection of oil only that the process aimed at, resin being an extremely improbable addition, as it would spoil the balsam.

The instructions in the P.B. were comparatively worthless; while in the new process, if the oil actually did separate, there was proof positive of adulteration.

As to Dr. Bartlett's objection, although borax sometimes occurred in soap, it never existed in balsam copaiba, nor could it be added to that substance without emulsifying it.

OPIUM—SMYRNA REPORTS.

THE following letters from Smyrna, published in the *Philadelphia Drug Exchange Circular*, No. 46, are of value to dealers. This authority has generally proved well-informed, though the atmosphere of Smyrna is at this period of the year generally impregnated with rumours of poor crops, and consequently higher prices.

Smyrna, September 23, 1876.—“We last had this pleasure on the 16th inst., and have since received your drug circular, for which we thank you.

“Our opium market has still continued in a quiet state, and the sales have not exceeded 40 baskets at 165 to 170 piastres for Karaissar, 160 piastres for current, and 130 to 145 piastres for current and Yerli, ‘tale quale.’

“We had expected sales to have been effected at lower figures than the above, but a considerable quantity of opium having been placed on deposit, holders were enabled to meet their engagements, and were not pressed to sell.

“We are of opinion that larger purchases would have been made, and chiefly on speculation, had opium been procurable at a few piastres less, as it is the general opinion that we shall soon have an advance.

“Our principal holder of opium here (who will have about a third of the crop in his hands) will not sell at anything like present prices.”

Smyrna, September 29, 1876.—“Our opium market continues quiet, and the transactions have been almost *nil* throughout the month; holders are very anxious to realise a small portion of their holdings to face pressing pecuniary engagements, but cannot make up their minds to accept the reduced prices now offering by American and other buyers, viz., 160 piastres for Karaissar, and 155 piastres for current quality, owing to the shortness of the crop and the conviction that prices will rise considerably as the season advances, more especially as the proportion of seconds will be again large this season. The crop, as mentioned in my last, will not exceed 3,300 baskets, and the present stock now in the market, including old opium,

amounts to 1,500 baskets, and about 1,400 still remain in the interior, and 100 at Constantinople, making in all 3,000 baskets or cases. Of this quantity, probably 800 or thereabouts will be rejected as seconds by our examiners, not on account of any defect in intrinsic value, but owing to the darkness of the paste caused by the heavy rains which fell during the gathering in of the crop. It is the general opinion that as soon as our dealers have placed in all 150 to 200 cases of opium, to enable them to face their pressing engagements, the remainder will be withdrawn from the market until higher prices are obtainable."

Smyrna, September 30, 1876.—"Opium. There has at last been some movement in our market, and the sales amount to about 100 baskets, at 162 piastres for old and new Karaissar, and 157 piastres for current: the remaining ten baskets were Yerli, for which 180 piastres was paid. After the above purchases had been made, 165 piastres was offered for 20 baskets Karaissar without finding sellers. After dealers have disposed of about another 100 baskets, it is the general opinion that the remainder will be withdrawn from the market, as higher prices are looked for later on.

"The arrivals to date amount to 1,774 baskets, against 2,720 same time last year."

Smyrna, October 7, 1876.—"Opium has again experienced an advance since our last advices, and the sales this week have reached 163 baskets, principally for America. The sales are as follows:—132 baskets Karaissar and current, new and old, 165, 172, and 180 piastres; 12 baskets Karaissar and current, all new, 175 piastres; 9 baskets good Yerli, 180 piastres; 8 baskets Malatia, 171 piastres; 6 baskets Yerli tale quale, 145 to 150 piastres."

Smyrna, October 7, 1876.—"Our opium market has been much more active this last fortnight, and a sudden rise of prices has taken place. New and old Karaissar has successively been paid 162, 172, and 180 piastres, and more than 200 baskets have changed hands. Very firm market to-day and very few sellers: some of our more important holders will presently not sell at any rate."

Smyrna, October 14, 1876.—"The prices for opium have remained at about last week's extreme rates, and there are further sales of about 65 baskets to report at 176 piastres and 180 piastres for current and Karaissar, and 190 piastres for Yerli.

"Prices, we believe, will now remain firm at about present rates, with but slight fluctuations, but should a further demand arise we shall again have opium much higher. Speculators will most probably for the present keep quiet.

"Thus far about 2,350 baskets have arrived between this and Constantinople; therefore, we calculate that there is a stock of 1,200 to 1,400 baskets of old and new crop still remaining in the interior."

Smyrna, October 14, 1876.—"The crop estimate of a maximum of 3,300 baskets is daily confirmed: meanwhile the sowings of autumn for the coming crop are jeopardised by the absence of rains, and this adds to the firmness of our market."

Smyrna, October 21, 1876.—"Our market closes very firm, with prospects of no lower prices until next spring."

A MEDICAL ESSAY ON COUNTER PRESCRIBING.

THUS writes the *Medical Examiner* in its issue of November 16:—

At a time when the struggle for pre-eminence, and even for bare competence, becomes year by year more arduous and doubtful amongst the educated classes of our community, the members of our own profession forming no exception to the rule, it behoves us surely to take due advantage of such protection as the law may afford in the assertion and defence of our interests against all who would usurp or counterfeits our peculiar and legalised functions. At a time, too, when the social status of our profession generally, improved as it undoubtedly is, and yet improving, is higher than at any previous period of our history,—when the high scientific standard, no less than the pecuniary outlay, implied in the possession of our degrees and diplomas, has reached a point which (though possibly even yet transitional) is still without precedent in the past,—and when the legal definition accorded

to the holders of those qualifications is so clear and so well established, no systematic assumption of our privileges by those at once socially and intellectually our inferiors should be passed over or connived at.

Counter prescribing by druggists, as a means of supplementing their ordinary trade income, is a practice so commonly and so unblushingly carried on, both in town and country, that the mere proof of the existence of this abuse need form no part of our task here. Nor shall we affect to speak from broadly disinterested motives, in the name of the public at large; though, as we shall show incidentally, the public welfare cannot but be very seriously affected by such blind and irresponsible empiricism as that which we are considering. Our protest will be uttered rather on behalf of those members of our profession whose dignity, no less than their pecuniary interests, must be affected by the impudent and unauthorised infringement of their rights.

Let us look the matter fairly in the face. There can be no manner of doubt that a very large proportion of registered chemists and druggists in this country are in the daily habit not only of *dispensing*, but of *prescribing*, medicaments to all persons who may seek advice at their hands, pursuing thereby, and deriving profit from, a course of proceeding which is obviously illegal, and detrimental to the interests of the medical profession. There can be little question, further, that they obtain opportunity for such prescribing from the fact that their so-called "treatment" is afforded to the public at charges which are so much less than those ordinarily obtaining among the members of our profession as to form an inducement to many among the less wealthy classes. That is to say, simply, that advice founded upon a self-assumed knowledge, which, even if it exist, has been obtained without expenditure of either time or money, and which is certified by no legal guarantee, can be retailed at a cost far smaller than that at which a qualified medical practitioner must value his services. There can be no doubt, again, that the pecuniary loss to our profession resulting from such practice is, in the aggregate, very great, and that such loss falls principally upon those struggling members of our body, especially in large towns, who can ill afford encroachment upon their rights, and who are the least able to take any active means for their vindication. And there can be no doubt, in the last place, as may be gathered either from perusal of the Acts which bear upon the point, or from recent decisions, as to the absolute illegality of the practice—as to the fact that such an abuse can continue to exist, in its present magnitude, only by the supineness of our own representatives, or examining corporations—the explanation of this inactivity being found possibly in the fact that an evil which touches but slightly upon the direct interests of our leading and senior members enlists in a correspondingly minute degree their sympathies for those who are humbler and less fortunate.

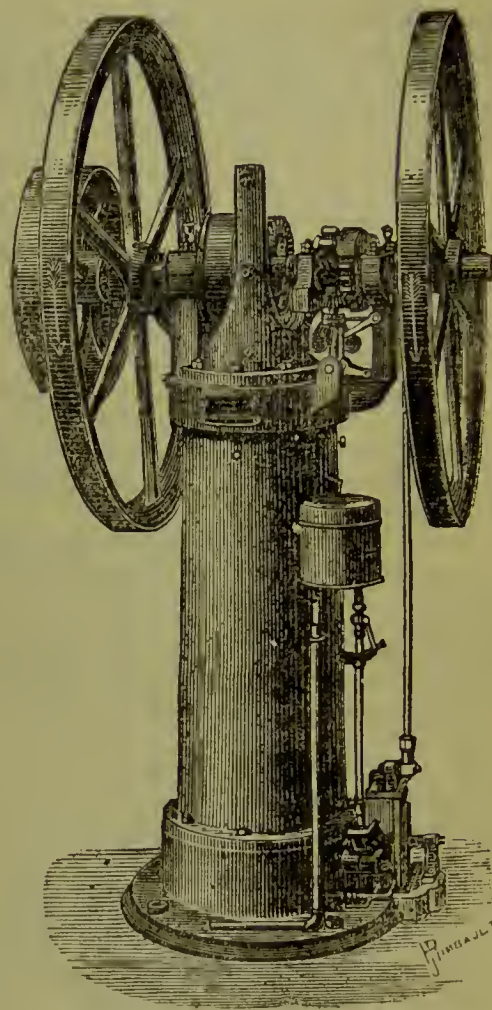
That the druggists themselves are most fully alive both to the gain which they derive from prescribing, and to the peril which is foreshadowed to them by the prospect of prosecution, may be clearly gathered from the reports of the proceedings of the Council of the Pharmaceutical Society, as published in their Journal of October 7. This body, taking for the subject of their deliberation the threatened prosecution of chemists in Nottingham for prescribing, debated seriously, though with some timidity and quibbling of terms, the propriety of undertaking, at the cost of their society, the legal defence "of any chemist or druggist who is threatened with prosecution for prescribing according to long usage," a motion to this effect being ultimately, though by a narrow majority, adopted. We cannot, of course, look at this matter from the same point of view as the framers and supporters of such a motion, but we may be allowed to express our opinion that no course more detrimental to the interests of the pharmaceutical body could be adopted than this public support and recognition of those druggists who have habitually exceeded their functions. As one of their own number naïvely remarked, "The society would lose its prestige and influence if it went forth that the council was prepared to set itself up to oppose the law." Indeed, we should wish for nothing better than that our position in this matter, in opposition to that expressed by some of the speakers at the meeting referred to, should be brought to the most open and public test. It would never be the case that any educated section of the public would fail to appreciate and judge of this question aright when it was placed plainly before their eyes. Here, on the one side, are our medical men, who have obtained, at the expenditure of much capital, time, and labour, the legal license for the practice of medicine in this country.

To these, and to these alone, after due proof of fitness given, has the permission for making charges for the treatment of disease and the prescription of remedies been granted. This work is done, and especially by those whose sphere lies among the poorer classes, at a rate so reasonable that but a moderate interest for the actual time and capital expended in the process of education, at least until middle life, is to be obtained; while the State has also provided amply for the destitute by the Local Government Medical Service, by means of which due care and treatment are within the reach of the lowest and the most miserable. There, on the other side, are the chemists, who, with far fewer initial expenses and an education which includes merely the discrimination and manipulation of drugs, have received license for the dispensing of prescriptions written by medical men, and for the sale of the remedies with whose physical nature their education has made them acquainted. If these persons, presuming upon long indulgence and arrogant in the assumption of duties higher than those for the discharge of which they are certificated, enter upon an organised defence of the infringement by their body of the rights and privileges which belong only to the medical profession, they will find but little either of justice or popularity in their cause. The cheapening of medical treatment and prescribing by those who will pretend to a knowledge which they can by no possibility have acquired, the exhibition of remedies by those who must be ignorant no less of the physiological properties of the drugs than of the nature of the conditions in which they are indicated, is a position which will be at once unpopular and indefensible. We could multiply instances, did occasion demand, of the evils wrought by druggists who have exceeded their functions in the manner we are considering. We need but to search the records of the public press to find cases of actual death resulting from mal-treatment by these unqualified persons, and may assume, without fear of error, that for one such case which is forced upon the public notice by the magnitude of the injury done, there are vast numbers where grave but unpublished evil has been inflicted. For the lesser cannot include the greater, the layer of bricks cannot fill the office of the architect, nor the mixer of colours emulate the painter of the picture. Nor can the impostor, whose folly is his courage, and who lies in such an abyss of ignorance as to know not even of how great things he is unconscious, indulge without accident in the practice of an art for which years of patient application and high scientific training are, beyond all question, essential.

Let it be granted, then, that the abuse is great, and the risk to the public no less patent than the injury to our profession. What means should be adopted to lessen and discountenance the practice in question? We are far from recommending any precipitate or universal prosecution of offenders in the first place. We should have imagined, had the proceedings of the Council of the Pharmaceutical Society not come under our notice, that a remonstrance, addressed by the Medical Council, representing the existence and increase of such an evil, would have secured such support and action from the Pharmaceutical Society as would have led it, by all means in its power, to have arrested and discountenanced such a course of proceeding by its members. But since that society, or at least a majority of its council, would rather aid and support the druggists in the infringement of the law, it is for our own profession now to consider by what means it may make its voice heard and its authority felt. This is a matter, surely, which is worthy of the notice of these corporations and chartered bodies from whom we hold our degrees and licenses. Should not our Medical Council take such a matter under its charge, and protect the interests of those whom it is appointed to represent? A public statement or protest from this body, or from any other association which may be held to represent our combined interests, directed, in the first case, in the form of a circular memorandum, advising all druggists that in exceeding their legal functions they are laying themselves open to prosecution and fine, and acting to the injury both of the public and the medical profession, could hardly fall idly to the ground. And prosecution, as a sequel to this, in such aggravated instances as might be selected, leading, as it must do, to a succession of clear legal decisions upon the subject, would lend such force and publicity to our resistance of this evil as must soon lead to its diminution. Let it be our part at least, and our words in such a case will not have been uttered aimlessly, to precipitate the recognition and discussion of a question which is of no trifling gravity to our whole professional body.

ATMOSPHERIC GAS ENGINE.

WE print below an engraving of one of Crossley Brothers' atmospheric gas engines, an invention of German origin, which has been introduced some years, and has been largely sold, but which is not yet known to all those firms who require the aid of some mechanical power in their factories or workshops.



The principle of construction of the atmospheric gas engine is this: Gas and air mixed in such proportions as to give a mild explosive compound are admitted under a piston which slides air-tight in a vertical cylinder open at the top. The compound is ignited, explodes, and the explosion drives the piston upwards. The ignited gases, having increased in volume, lose their heat; their pressure becomes less as the piston rises, and when it has got to the top of the cylinder a partial vacuum is formed, and the pressure of the atmosphere makes the piston descend. The work thus done steadily by the atmosphere during the return stroke of the piston yields the driving power, which is transferred to the shaft by suitable mechanism. The utilisation of the instantaneous power of the explosion by allowing the piston to fly up freely from it without doing other work than emptying the cylinder of air, is the basis of the great economy and success of these engines. The sudden energy of an explosion cannot be economically applied to push a piston slowly along against a load as in the case of steam engines. It is thus that other gas engines have been superseded by this patent, and a saving of more than 80 per cent. of gas effected.

These engines are made of various powers, from $\frac{1}{4}$ -horse (say 1 man) to 3-horse power. The smallest costs 59*l.* complete, the largest 174*l.* A one-horse power engine costs about 100*l.* The gas for feeding one of this size costs about 1*d.* per hour.

There are some special advantages about these engines which render them especially suitable to aerated water makers, druggists, manufacturing chemists, and others who do not require their works to be in constant operation. They can be started at a minute's notice, and can be stopped as suddenly, ceasing of course to consume fuel as soon as they cease to work. The absence of a boiler of course ensures safety from boiler explosions, and we scarcely see how any other accident can well occur in the use of these engines.

Several druggists and a good many soda-water makers have adopted these engines, and the proprietors print some very

laudatory testimonials from this section of their clients. One from Mr. Alfred Bird, of Birmingham, is very detailed and satisfactory. Messrs. Crossley show an engine at work at their offices, 116 Queen Victoria Street, and we may also mention that they give other particulars in their advertisement in our pages.

A DRUGGIST'S ERROR.—FATAL.

AN inquest was held at Leeds, on November 24, by Mr. Malcolm, Borough Coroner, into the circumstances of a death which occurred, under distressing circumstances, through the mistake of a chemist's assistant. The following report is taken from the *Leeds Mercury* :—

The deceased was Mrs. Margaret Conway, wife of a fish dealer, living at 86 Meanwood Road, Leeds. On November 21 she went to the shop of Mr. Manfield, chemist, 85 Kirkgate, and complained to the assistant, Mr. Matthew Ward, a man of about 30 years of age, of indigestion. He said he would make up a bottle of medicine for her, and asked her to call for it in about a quarter of an hour. This she did, but, unfortunately, he gave her in mistake a bottle of strychnine which he had made up for Dr. Burchell, and placed beside the bottle of medicine. An hour or two after returning home she took a spoonful of the contents of the bottle, and died shortly afterwards in great agony. Mr. J. W. Middleton, solicitor, appeared for Ward.

Joseph Conway said the deceased, who was his wife, was 59 years of age. On the morning of the 21st she left him at the market, saying that she would go and get some quinine, as she complained of loss of appetite. On returning home he saw her there. She said she had been to Dr. Bell and had got a bottle of medicine, which she was to take three times a day. He then left her, and did not again see her until shortly before her death.

Maria Adams said she was the wife of a fish hawker, and daughter of the deceased. She met the deceased in the market on the morning of November 21 about nine o'clock. Deceased said she did not feel well. They went to the shop of Mr. Manfield, and deceased complained to Mr. Ward, the assistant, that she felt very weak. He said he thought she was feverish, and that if she called again in a quarter of an hour he would give her a bottle of medicine. They called again, and he handed them a bottle. Deceased asked how the medicine was to be taken. He replied two tablespoonfuls three times a day. They then went home to the residence of the deceased. Witness then unwrapped the bottle, and saw that it had a label on it, with the word "poison." She did not know what it meant, and could not read. Deceased also could not read. Witness soon afterwards left, and when subsequently sent for, she found the deceased stretched on the floor. Witness screamed, and the deceased seemed to come round. She said, "Oh, it is too late, that medicine is poison." Witness lifted her up, and deceased said, "Don't leave me; I have not long to live." A doctor was sent for, and soon after his arrival the deceased died.

Cross-examined by Mr. Middleton: When Ward gave the deceased the bottle it was wrapped up. There were no other customers in the shop at the time, nor was Ward attending any one else when he handed the bottle to deceased. The red label on the bottle did not strike her as noteworthy. She could not spell the word poison or read the letters of the word. Had she been able to make out the word poison, she would have taken it to mean the stuff would be poisonous if her mother took more than she was ordered.

Margaret Adams, a little girl, 13 years of age, the granddaughter of the deceased, said she was at her grandmother's when the deceased came home with the other witness. The bottle of medicine was put on the mantelpiece and the deceased went upstairs to lie down. She got up about half-past three and witness made tea for her. Deceased then told her to hold the spoon while she poured the medicine in it. Witness said, "Oh, grandma, it says poison." Deceased replied that the druggist would not give her poison; he knew what he was doing. She took a tablespoonful of the medicine, but as it tasted very bitter she did not take another. Soon afterwards she complained of pains in the head, and began to jump about convulsively. Some neighbours then came in, and the deceased told them she had taken poison. Witness then sent for a surgeon.

Mrs. Townend, the neighbour referred to, gave some corroborative evidence, adding that she saw the red label on the bottle, and knew, although she could not read, what it meant. Two doctors came.

Whitwell Manfield, chemist, Kirkgate, said that on November 20 an order came to his shop from Dr. Burchell for several drugs, &c., including an order for 8 ozs. of [solution of?] strychnine. Witness was out of town most of the next day, having received a telegram saying his uncle was very ill. On returning in the evening he was not informed of the mistake that had been made until about seven o'clock, when two police officers came into his shop. They asked him if he had sold any strychnine. He said "No." They asked, "Not to a woman named Conway?" He replied "No." They said that a woman of that name had taken poison, and the bottle had witness's label on it. Ward then said that he made up a bottle of strychnine for Dr. Burchell, and had given it to a woman in mistake. The reason he did not inform witness immediately on his return home was that, knowing witness had trouble on his mind, he did not like to mention it. Ward had been his assistant for about four years and a half. Previous to that he had been assistant to a chemist in Norfolk. Hitherto he had given every satisfaction.

In answer to a jurymen, witness said he did not use distinctive poison bottles, but he put special labels on, and never sold poison without a caution.

John J. Pickles, surgeon, Camp Road, said that in the afternoon of November 21 he was called to see the deceased. He saw the bottle of strychnine, and found the deceased showing symptoms characteristic of strychnine poisoning. She had convulsions, her jaws were tightly clenched, and she was crying with pain a good deal. He gave her an emetic of sulphate of zinc, but it had no effect. An assistant of Dr. Laird then came in, and witness, leaving her in his charge, went out for the stomach pump. He succeeded with great difficulty in pressing it down the throat, but just as it began to run a convulsion came on and she died from suffocation, as is usually the case with people poisoned by strychnine. Before she died he had withdrawn the pump. There was no doubt that death was due to strychnine poisoning. That opinion was verified by a post-mortem examination which he had made.

Albert Halliwell, porter to Mr. Manfield, said that about a quarter past ten o'clock on Tuesday morning Ward, who appeared very confused and agitated at the time, said he would give a thousand pounds if he could call back what he had done. Witness asked him what he had done, and he replied that he had given away Dr. Burchell's strychnine in mistake for a bottle of medicine, and asked witness if he could recognise the two women who had been in the shop. Witness said he thought he could, and went into the market to try to find them, but did not succeed. Ward had no means of tracing them, not knowing where they lived or anything about them. There were only two bottles in the place from which the bottle of strychnine was taken.

The Coroner said he did not intend to call Ward, but if he liked to make a voluntary statement, he would hear him.

Mr. Middleton said Ward had every desire to do so.

The Coroner said he would caution Ward, but that was not intended as any imputation upon him, but simply as a warning that his evidence might be used against him.

Ward said he made up the bottle of strychnine on the morning of the 21st, about half an hour before deceased came into the shop. He wrapped the bottle up after labelling it with a poison label, and put it on a shelf. The bottle of medicine he intended for the deceased he put on a shelf underneath. When the deceased came in the second time he was in a great hurry. About twenty minutes afterwards he found out the mistake he had made, but he had no means of tracing the deceased. He had been in the business about fourteen years. He was very loth to prescribe for the deceased, and told her she ought to consult a medical man.

A jurymen said this case ought to be a severe warning to chemists.

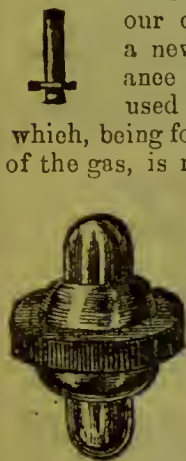
The jury then retired, and after an absence of five minutes returned with a verdict "That death was caused by a dose of strychnine taken in mistake, and that the mistake arose from the gross carelessness of Matthew Ward."

The Coroner: You find, then, that the death of the deceased was by misadventure?

Mr. Joseph Walker (foreman of the jury).—Yes; and we are also of opinion that it is negligence on the part of the chemist Manfield not to have poison bottles.

BARRETT AND ELSERS' PATENT STOPPER.

THE patent stopper for aerated water bottles which Messrs. Barrett & Elers brought to London some six or seven years ago, and respecting which they have just obtained an injunction against a rival maker named Vernon, has come into very extended use, both in this country and abroad. The enormous trade which this firm has built up in the manufacture of aerated waters at their Westminster Works will be judged of when we mention that for six months in the year they keep seventy horses in full employment delivering goods. The growth of this business is mainly due to the advantage possessed by the proprietors in the patent to which we have referred. They have recently, in our opinion, doubled the value of their method by a new style of stopper, far more elegant in appearance and in no respect less efficient. The stopper used by them hitherto is a stem of lignum vitæ, which, being forced to the mouth of the bottle by the pressure of the gas, is retained there by the disc of indiarubber, which presses against the shoulder of the bottle like a valve. Some fastidious persons objected to the immersion of that long stem of wood into their beverage before they drank it. The new stopper cannot cause any such aversion. It is simply a neat little glass bullet, with a very small disc of indiarubber fitted to its centre. By adopting Lamont's patent bottles, which are all of an exact size in the mouth and rimmed in the inside, these stoppers will fit accurately in every case; they can be instantly opened, as shown in the engraving. It is not only that



these stoppers provide a great and an appreciated convenience to the public—the advantage to the manufacturer is still more marked. The process of corking and wiring is entirely saved, and of course this causes a saving of the corks and wire also. As to speed, it is a fact that one lad will himself complete the bottling of a much larger quantity in a given time if the patent stoppers are employed than under the old system can be accomplished by one man and two lads. By a very clever invention the indiarubber disc can be fitted on to the glass inside the bottle. Consequently when a bottle is broken the stopper does not become useless.

RECTIFICATION OF THE REGISTER OF CHEMISTS AND DRUGGISTS.

NOTICE has been issued by the Registrar appointed under the Pharmacy Act that the subjoined names will be erased from the Register of Chemists and Druggists on December 31, 1876, unless the threatened persons should in the meantime prove their existence. Two registered letters have been sent to each individual named below, without eliciting any response. As this journal may fall into the hands of some one named below, or of some one acquainted with one of the persons, we urge on such an one the importance of making immediate application to the Registrar, 17 Bloomsbury Square, to save himself from inconvenience.

Those marked * are Pharmaceutical Chemists.

Abbott, Joseph Orzen	24 Alfreton Road, Nottingham
Addis, Philip	4 Sussex Villas, Warner Road, Camberwell, Surrey
Aldridge, Joseph	105 North Street, Leeds
Allcock, Samuel	Toton, Notts.
Allen, John	145 Moseley Street, Moseley Road, Birmingham
Aneell, Theodore Robert	13 Berners Street, Oxford Street, London, W.
Auderson, John Watson	Chester
Andrews, Richard	High Street, Rainham, Kent
Arnall, Thomas	Franchise Street, Wednesbury, Staffs.
Aston, Edward	Ton-y-Pandy, near Pontypridd
Armstrong, John	Maryport
Atkinson, Richard	Skipton, Yorks.
Attwater, Thomas Clipping	Church Street, Liskeard
Attwell, Arthur	28 Nassau Place, Commercial Road, London, E.
Baines, William Duekle	4 Muscum Square, Wisbeach
Balfre, Juan Morday	13 Handcroft Road, West Croydon, Surrey
Bannister, Benjamin Newnham	20 Delancy Street, Camden Town, London, N.W.
Barker, Frederick Griffiths	242 Oxford Street, Stepney, London, E.
*Barkley, William	3 Langham Place, London, W.
Barlow, Thomas	Nottingham
Barns, Joseph	79 Old Street, Ashton-under-Lyne
Barr, Thomas James	40 Dublin Street, Edinburgh, N.B.
Bartleet, John	55 King Henry's Walk, Mildmay Park, London, N.
Benle, Benjamin Sturge	70 Bridport Place, Hoxton, London, N.
Beale, Joseph Foley	70 Bridport Place, Hoxton, London, N.
Bell, James Alexander	Nelson-in-Marsden
Bell, John Armour	5 Salisbury Street, Edinburgh, N.B.
Blagg, George Denby	165 Lorrimore Road, Walworth, Surrey
Bland, William Henry	37 Clifford Street, Oxford Road, Manchester
Blandford, William Johnston	3 Moat Street, Stockton-on-Tees
Bordass, William	Sibsey, Lincolnshire
Bothamley, William Parkinson	Nottingham
Bowen, William Milne	7 Deacon Street, Walworth, Surrey
Bowles, Edward Henry	26 Gerrard Street, Islington, London, N.
Brierley, George Henry	16 Foregate Street, Chester
Brierley, John	Field Head Road, Highfield, Sheffield
Briggs, William	173 Long Lane, Bermondsey, Surrey
Bristow, Robert Anthony	136 Grundy Street, Bromley, Middlesex
Brooke, Charles	Peukridge, Staffordshire
Brooker, John Bedford	89 Lake Road, Landport, Hants
Broome, Robert	Ditton, near Farnworth, Lanes.
Brunton, Edward	624 Old Kent Road, Surrey
Buckton, Thomas	Wortley, near Leeds
Burgin, Nathan Rhodes	22 Bull Green, Halifax, Yorkshire
Bywater, George	Cauldwell Street, Bedford
*Cable, George Hughes	23 Northumberland Street, London, W.C.
Calder, William	Craigatin, Pitlochry, Perthshire
Carns, Thomas	12 Elliston Street, Lower Broughton, Manchester
Cary, Oswald R.	145 Gt. Alfred Street South, Nottingham
Catton, Joseph Thurston	60 Pembroke Rd., Kensington, Lond., W.
Chapman, William	Ruddington, Notts.
Chapman, William Travis	14 Clumber Street, Nottingham
Chnrch, William Robert	High Street, Wootton Bassett, Wilts.
Clark, Alexander	197 South Wellington St., Glasgow, N.B.
Clark, Shadrach	Millbrook, Cornwall
Clampson, Joseph	78 High Street, Brierley Hill, Staffs.
Clingan, William Morison	5 Queensferry Street, Edinburgh, N.B.
Clutterbuck, Samuel Richard	39 Ledbury Road, London, W.
Coate, Thomas Acraman	4 Devon Terrace, Albion Road, Hackney, London, E.
*Coleman, Abraham	Edinburgh, N.B.
Cooper, John Thornhill	70 Higher Bridge Street, Bolton, Lanes.
Copland, Thomas	13 Bath Street, Waterloo, near Liverpool
Costerton, Horace Arthur	Alma Cottage, Vernon Road, Sutton, Surrey
Cowdery, Frederic	19 Woodhouse Lane, Leeds
Cregreen, James Henry	10 Shrewsbury Road, St. Stephen's Sq., Baywater, London, W.
Crew, William Thomas	217 Stockport Road, Manchester
Crocker, George	68 Broad Street, Worcester
Davies, George	149 Friar Street, Reading
Davies, Hopkin Jones	The General Infirmary, Northampton
Davison, Anthony	Darlington, Durham
Day, Charles	10 Blackland Terrace, King's Road, Chelsea, London, S.W.

- Day, William John..... 76 Upper Parliament Street, Nottingham
Dickinson, Joshua Steel 67 High Street West, Gateshead
Dixou, Henry Benjamin Bedale
Dobson, John Wilmslow, Cheshire
Dodwell, John, jun. 422 High Street, Cheltenham
Dolman, Edward 56 White Horse Street, Stepney, Lond., E.
Donald, Peter Gellatly 12 North Road, New Cross, Kent
Duncombe, William Pauncefort .. Acre Lane, Brixton, Surrey
Durham, Frederick William Norbiton, Kingston-on-Thames
Earnshaw, George 33 Portland St., Ashton-under-Lyne
Edwards, James Joseph..... George Street, Pontypool, Mon.
Edwards, William Joseph..... 30 Chapel Road, Southampton
Edwards, William Read 13 Forest Lane, Stratford, Essex
Evans, Daniel William 231 Great College Street, London, N.W.
Evans, David Powell Frogmore Street, Tring, Herts.
Farmer, Arthur Coningsby..... 1 West Hill, Wandsworth, Surrey
*Farmer, Charles Adolphe 146 Holborn, London, E.C.
*Field, George 168 Edgware Road, London, W.
Flint, George 36 Pevensy Road, Eastbourne
Forrester, Richard Hammersley.. Hope Street, Sandbach, Cheshire
Fowler, Charles Mareh 1 Weymouth Street, London, W.
Francis, Thomas..... Stowmarket
Frith, Edwin John 138 Princes Road, Kennington, Surrey
Gardam, Mary Upper Union Street, Hull
Gardner, Francis..... Doncaster
Garthwaite, William Humble ... 8 Pembroke Place, Liverpool
Gavin, John 101 Broughton Street, Edinburgh, N.B.
Gawith, James Jackson 47 Lime Street, Liverpool
Gawith, Tom Harrison 47 Lime Street, Liverpool
Goldsmith, Joseph Lawder 17 Paradise Row, Cbeater
*Goode, William Philip..... 22 Hamilton Terrace East, Highbury Park, London, N.
Gordon, George 32 Bristo Street, Edinburgh, N.B.
Goulden, Henry William 3 Agar Street, London, W.C.
Gowans, James Edinburgh, N.B.
Grant, Walter Henry..... Newmarket Road, Norwich
Graydon, John..... Royal Arsenal, Woolwich, Kent
Greaves, Edwin Tracy 55 James Street, Bute Docks, Cardiff
Green, Edward Thomas 4 Arden Street, Battersea, Surrey
Greeves, John Williams..... 52 Church St., Edgware Rd., London, W.
Gresham, Robert..... 231½ Gray's Inn Road, London, W.C.
Guthrie, Peter 111A Sauchiehall Street, Glasgow, N.B.
Haas, Louis Houndsditch, London, E.
Haigh, Daniel Knottingley, Yorks.
Hampson, Peter 46 Newport Street, Bolton, Lancs.
*Hanson, Thomas 26 Above Bar, Southampton
Hardin, Henry Towcester, Northamptonshire
Harlow, Robert Byron's Street, Macclesfield
Harold, Arthur Cley-next-the-Sea, Norfolk
Harrison, John William 151 Commercial Road, Landport, Hants.
Harvey, James Steen..... 34 Ashton Street, Birmingham
Haynes, John High Street, Upper Sydenham, Kent
Hayman, Henry Daniel..... 5 Aspland Terrace, Annerst Road East, Hackney, London, E.
Hayward, Robert 112 Hill Street, Peckham, Surrey
Heuderson, Robert Hood 41 Kingsley Road, Maidstone
Hicks, William King..... 227 Walton Road, Liverpool
Hill, James 120 High Street, Ramsgate
Hine, Alfred Leonard..... 9 Albion Place, Hyde Park Sq., Lond., W.
Hirst, George Roewood Cottage, Sheffield
Hiscocks, Edwin Hillier Fairfield, Manchester
Hollis, William London Road, Stoke-on-Trent
Holmes, John William 15 Turner's Road, Limehouse, London, E.
Holt, Thomas 55 Narrow Marsh, Nottingham
Homer, Frederick George..... 46 Hampton Street, Birmingham
Hope, George Edward Little London, Willenhall, Staffordshire
Hopkinson, Stephen 15 Gloucester Street, Queen's Sq., Lond., W.C.
Howell, John Pontypridd, Glamorganshire
Hughes, John Griffith Thorubury, Gloucestershire
Hunt, Thomas Jones..... Knightsbridge, London, S.W.
Inglis, James 181 New City Road, Glasgow, N.B.
Jameson, William Sheringham, Norfolk
Jeffcoat, James 34 High Street, Putney, Surrey
Jennings, William Henry..... 30 Lisle St., Leicester Sq., London, W.C.
Johnson, Henry John 251 Balls Pond Road, London, N.
Jones, David 90 Snow's Fields, Bermondsey, Surrey
*Jones, David Mount Pleasant, Lower Norwood, Surrey
Jones, John Victoria Road, Aldershot
Jones, John 4 Aigburth Road, Grassendale, Lancs.
Jones, Joseph 38 Wallbrook, London, E.C.
Jones, Samuel Tredegar, Monmouthshire
Jordan, James Alfred 372 Vauxhall Road, Liverpool
Jukes, Edward Boswell..... 38 Balaam Street, Plaistow, Essex
Kay, John Broomhead 231A Gray's Inn Road, London, W.C.
Keeling, Thomas George Wisbeach, Cambridgeshire
Kent, Edward George Sleaford, Lincolnshire
Kerr, David Brown..... 4 Regent Park Terrace, Strathbungo, near Glasgow, N.B.
Kerry, Thomas Knottingley, Yorkshire
Kershaw, Charles Edward 2 Church Street, Wrexham
King, Robert Chandos Street, Strand, London, W.C.
Knowles, Thomas, jun..... 7 Frederick Place, Caledonian Road, London, N.
Lavers, Henry Richard..... Nettlestead, near Watlington, Kent
Lawrance, Alexander..... 22 Commercial Place, Aberdare
Lawrence, Christopher 38 Wilton Place, Belgrave Square, Lond., S.W.
Lear, William 61 North Street, Wandsworth, Surrey
Leaver, William Henry..... 152 Sandringham Road, Dalston, London, E.
Lees, Henry Spring Bank Cottages, Ashton-under-Lyne
Linay, Thomas William 116 Fitzroy Street, Cambridge
Lindley, William Walker 6 Rosendale Road, West Dulwich, Surrey
Lloyd, Edward..... 538 Oldham Road, Manchester
Lloyd, James 9 Sheldon Street, Paddington, London, W.
*Long, George..... 8 High Street, Penge, Surrey
McDonald, William Hide Hill, Berwick-on-Tweed
McMillan, Mary 23 Anderston Quay, Glasgow, N.B.
*Marshall, Eli 8 High Street, Aldgate, London, E.
Melton, Frederick Farnsborne Villa, Park, Tottenham, Middlesex
Micklem, Ansten..... Reading
Middleton, John William..... Prebend Row, Darlington
Millar, Archibald James 93 High Street, Homerton, London, E.
Millard, Thomas 57 Westgate Street, Gloucester
Miller, Charles New Hincsey, Berkshire
Milligan, John Edenfield, Bury, Lancashire
Molynex, Henry Templeman Terrace, Barton, near Pattercroft, Lancashire
Morgan, Augustus Kinsey High Street, Newport, Monmouthshire
Morris, Edward Stratton Winecombe Street, Cheltenham
Morris, John Longton, Staffordshire
Morse, Charles Bath Enfield, Middlesex
Morton, Henry..... 4 Cemetery Road, Nunhead, Kent
Murray, George Balfour 10 New Cavendish Street, London, W.
Nash, William Grosvenor Square, Lower Broughton, Manchester
Nicholson, Frederick..... 18 White Abbey Road, Bradford, Yorks.
*Norrish, James 5 Altenburgh Terrace, New Wandsworth, Surrey
Norton, Charles Plymouth
Nutt, John Fanshawe Street, Southampton
Page, William Henry..... 445 Strand, London, W.C.
Paris, Daniel George 66 Breckfield Road North, Liverpool
*Parker, John Reading
Parnell, James B. Wiveliscombe
Pay, William 4 Salisbury Street, Lisson Grove, London, N.W.
Phillips, Joseph 41 Edward Street, Dorset Square, London, N.W.
Place, John 56 Wenlock Street, New North Road, London, N.
Poole, William Lane End Street, Market Street, Blackpool
Powell, Charles John Cadogan .. Llanvrttyd Wells, Brecknockshire
Pritchard, George Frederick ... Knightsbridge, London, S.W.
Prys, Robert John 27 High Street, Wrexham
Rawlinson, Ralph Lords' Mill, High Wycombe, Bucks.
Redfern, James Howard 23 Upper Jackson Street, Hulme, Manchester
Redford, John Gorton Ducie Grove, Oxford Road, Manchester
Rees, John Ystalyfera, near Swansea
Reynolds, Reuben Grantham, Lincolnshire
Reynolds, William Harris 123 New Oxford Street, Stepney, London, E.
Richards, John 9 Douglas Terrace, Cubitt Town, Poplar, London, E.
Richardson, Solomon..... Pleasley, near Mansfield, Nottinghamshire
Riches, William James 59 High Street, Lowestoft
Ritchie, Andrew Wemyes..... 71 St. Vincent Street, Glasgow, N.E.
Roberts, Thomas Edwards 20 Pepper Street, Chester
Robinson, Alfred..... Walton Street, Wold Carr, Hull
Robinson, Christopher William .. Birmingham
*Romano, Fredk. Wm. Richard .. 61 Virgilia Terrace, Great Dover Street, Surrey
Rose, Robert Haverhill, Suffolk
Ross, Richard 77A Whitechapel Road, London, E.
Row, George Commius 14 Thorne Road, South Lambeth, Surrey
Rowe, Joseph High Street, Wednesfield, Staffordshire
Rutter, Thomas Dixon 141 Regent's Park Road, London, N.W.
Sanders, William Edwin Brighton Street, Egremont, Cheshire
Scaife, Henry 10 Archer Street, Darlington, Durham
Sewell, Joseph Dixon..... 40 Napier Street, Shieldfield, Northumberland
Simons, David..... 27 Paradise Street, Liverpool
Skiuner, James Charlton 4 Quadrant, Lime Street, Liverpool
Smith, Henry Trinity Street, Cambridge
Smith, Jeremiah..... 34 Church Street, Bradford, Manchester
Smith, Joe Wath-upon-Deane, Yorkshire
Smith, John Frederick 81 Athol Street, Liverpool
*Smith, Richard 42 Banner Street, London, E.C.
Sowray, Robert Duck 11 Leudal, York
Spalding, George Sydney..... Stansted, Essex
Staniland, Joseph Commerce Street, Nottingham
Stewart, Charles 203 Bute Street, Cardiff
Stirling, John Richard 37 Church Street, Bethnal Green, Lond., E.
Stokes, Thomas 11 Gosta Green, Birmingham
Tassell, Thomas 33 Church Street, Deptford, Kent
Tatham, Leonard Francis..... Byron Street, Patricroft, Manchester
Tessier, William Henry..... Biddenden, Kent
Thomas, Archibald..... 341 Hackney Road, London, E.
Thomas, Henry 109 Old Town, Croydon, Surrey
Thomas, Thomas Henry Pentre Ystrad, Rhondda Valley, Glamorganshire
Thomas, William Griffith..... High Street, Llanerchymedd, Anglesea
Thompson, Robert Middlesborough-on-Tees
Tomsett, George Thomas..... 47 Borough High Street, Southwark, Surrey
Totherick, Edwin Berwick-on-Tweed
Totherick, Robert Berwick-on-Tweed
Troughton, James 6 Queen's Road, Everton, Liverpool
Tucker, Benjamin Barkham ... Myrtle Cottage, Whitwell, Isle of Wight
Tucker, Charles Henry 11 St. George's Place, Cheltenham
Tucker, Horatio H. N. 18 Market Place, Wednesbury, Staffs.
Turnbull, Edward Hobson 3 Minder's Terrace, Hammersmith, London, W.
Turner, George Thomas Chapel House, Redruth
Walker, John 43 Great Homer Street, Liverpool
Walker, Samuel Smith Lichfield Road, Aston, Birmingham
Walker, William Warren Tyler .. 271 High St., Camden Town, Lond., N.W.

Wall, Alfred Ravensbourne Villas, St. Mary Cray, Kent
 Warburton, James 10 Market Street, Over Darwen, Lancs.
 Ward, William Edwin 45 Willoughby Street, New Lenton, Notts.
 Waterworth, William North Street, Scarborough
 Welch, George Edwin Andrew 25 Neechells Park Road, Birmingham
 Wells, Joshua Holroyd 115 North Street, Leeds
 Wharton, Frederick 41 Sloane Square, London, S.W.
 *Wheeler, Francis Norwich
 Willan, James Henry Burton 18 Conduit Street, London, W.
 Williams, David Syston, Leicestershire
 Williams, Edward Wellington, Salop
 Wilson, Ebenezer Walden 44 Peplow Street, Bishopsfield, Chester
 Wilson, John 4 Middle Pavement, Nottingham
 Windle, John Richard 9 Drayton Terrace, Camp Hill, Birming.
 Wolstenholme, John 50 Aston Street, Gosta Green, Birming.
 Woodstock, Charles Woburn, Beds.
 Woodward, Charles Bicester.
 *Woodbridge, George 1 Belle Vue Place, Great Malvern
 Woolley, George John B. 48 Arkwright Street, Nottingham
 Wright, Edwin Butler 18 Wray Terrace, Bethnal Green Road, London, E.
 Wright, Frederick William 329 Kennington Road, Surrey
 Wright, James 24 Stockwell Street, Greenwich, Kent
 Wright, William Henshaw Keelings Lane, Hanley, Staffordshire
 Young, Dewar Cricklade, Wilts



[The following list has been compiled expressly for THE CHEMIST AND DRUGGIST by G. F. Redfern, Patent Agent, successor to L. de Fontaine-moreau & Co., 4 South Street, Finsbury, London, and at Paris and Brussels.]

Provisional Protection for six months has been granted for the following:—

3424. R. C. Richards, of Preston, Lancashire. A new apparatus or appliance for uterine purposes. Dated August 30, 1876.
 3976. B. Wahl, of Boulevard St. Denis, Paris. A new or improved compound or composition for the purpose of destroying vermin. Dated October 14, 1876.
 3992. C. F. Claus, of Great St. Helen's, and A. E. C. Lowndes, of Queen Anne's Gate, London. Improvements in the manufacture of and in the application of certain detergents. Dated October 16, 1876.
 4006. N. B. Downing and J. E. Hughes, of Lambeth Hill, London. Improvements in means or apparatus for use in evaporating alkaline solutions. Dated October 17, 1876.
 4048. G. E. Davis, of Runcorn, Chester, and J. B. Aitken, of Manchester. Improvements in the treatment of phosphates of alumina or phosphates of alumina and iron for the purpose of obtaining useful substances therefrom. Dated October 19, 1876.
 4054. R. J. Hutchings, of Treforest, Glamorgan, South Wales. Improvements in cleansing, purifying, or revivifying the spent acid or chemical compositions or materials used for pickling metal plates and in apparatus therefor. Dated October 20, 1876.
 4204. G. D. Mease, of Lake Chemical Works, South Shields. Improvements in furnaces for decomposing chloride of sodium and potassium, manufacturing alkalies, and for other such-like purposes. Dated October 31, 1876.
 4339. E. Breffit, of London, and J. Edwards, of Castleford, Yorkshire. Improvements in stoppers for bottles. Dated November 9, 1876.
 4362. R. Powell and W. Atkins, of Liverpool. Improvements in and relating to the manufacture of hyposulphite of soda. Dated November 11, 1876.
 4398. P. C. Ducloux, of Lyons, France. Improvements in stoppers for bottles, jars, and other articles made of vitreous materials for containing alimentary and other substances. Dated November 13, 1876.
 4411. T. Kernahan, of Kilmarnock, North Britain. Improvements in the manufacture of lozenges and in the machinery or apparatus employed therefor. Dated November 14, 1876.

Letters Patent have been granted for the following:—

2043. C. Bovenschen, of Bishopsgate Street, London. Improved apparatus for stoppering bottles. Dated May 15, 1876.
 2133. E. Edel, of Berlin, Prussia. Improvements in trusses. Dated May 20, 1866.
 2285. R. W. Wallace, of New Road, Battersea Park, Surrey. Improvements in the manufacture of sulphuric anhydride and Nordhausen acid, and in the concentration and refining of sulphuric and other acids, and in apparatus therefor. Dated May 30, 1876.
 3287. J. Caldwell, of Tyldesley, Lancashire. An improved unguent for the treatment of sores of any description, whether such sores be upon a human being or upon an animal. Dated August 22, 1876.
 3380. W. Weldon, of Abbey Lodge, Merton, Surrey. Improvements in the means of and apparatus for the manufacture of sulphide of sodium and sulphide of potassium, which apparatus can be applied to the manufacture of "black ash." Dated August 28, 1876.
 3383. W. Weldon, of Merton, Surrey. A new combination of furnaces for use for the manufacture of sulphide of sodium and sulphide of potassium, applicable also to the manufacture of "black ash." Dated August 28, 1876.

3384. W. Weldon, of Merton, Surrey. Improvements in the manufacture of sulphide of sodium and sulphide of potassium, consisting partly in a new method or process and partly in means and appliances for carrying the same into effect. Dated August 28, 1876.
 3385. W. Weldon, of Merton, Surrey. A new method or process and a new combination of processes and appliances for obtaining from sulphide of sodium and sulphide of potassium either silicates or aluminates of soda and potash and either free sulphur or sulphurous acid. Dated August 28, 1876.
 3386. W. Weldon, of Merton, Surrey. A new method or process and a new combination of processes and appliances for obtaining from sulphide of sodium and sulphide of potassium, aluminate and phosphate of soda or potash, and either free sulphur or sulphurous acid. Dated August 28, 1876.
 3387. W. Weldon, of Merton, Surrey. A new method or process and a new combination of processes and appliances for obtaining from sulphide of sodium and sulphide of potassium, caustic soda and caustic potash, and either free sulphur or sulphurous acid. Dated August 28, 1876.
 3388. W. Weldon, of Merton, Surrey. Improvements in converting sulphide of sodium into carbonate of soda. Dated August 28, 1876.
 3389. W. Weldon, of Merton, Surrey. Improvements in treating sulphide of sodium and sulphide of potassium by carbonic acid in absorbing the resulting sulphuretted hydrogen, and in apparatus to be used for these purposes. Dated August 28, 1876.
 3390. W. Weldon, of Merton, Surrey. An improved combination of process and apparatus for the manufacture of soda and potash, and the recovery of the sulphur employed therein. Dated August 28, 1876.

Specifications published during the month:—

Postage 1d. each extra.

1876.

734. C. Claxton, sen. and jun. Stoppers for bottles. 6d.
 791. E. Breffit. Stoppers for bottles. 4d.
 877. J. Bruce. Feeding bottles. 4d.
 903. J. Cammack and A. Walker. Manufacture of sulphates of soda and potash. 6d.
 965. J. Bolt and J. Weeder. Stoppers for bottles. 6d.
 984. G. Kendal. Stoppers for bottles. 4d.
 985. F. B. Mitchell. Stoppering and filling bottles. 6d.
 1004. J. Williams. Stoppers for bottles. 6d.
 1025. E. Breffit and J. Edwards. Stoppers for bottles. 6d.
 1664. H. B. Fox. Stoppering bottles, &c. 2d.
 1727. E. Clark. Abdominal belts. 2d.
 1770. W. S. Squire. Manufacture of sulphate of soda. 2d.



BANKRUPTS.

- GOODFELLOW, WILLIAM RICHARD, Roche, Coruwall, surgeon. Nov. 14.
 HUMPHREYS, ROBERT WILLIAM, Castle Square, Carnarvon, surgeon and apothecary. Nov. 30.
 RIGBY, JAMES, 51 Great George Street, Liverpool, chemist. Nov. 17.
 THURPP, JAMES GODFREY, 10 Park Street, Grosvenor Square, surgeon. Nov. 27.

LIQUIDATIONS BY ARRANGEMENT OR COMPOSITION.

Notices of first meetings of creditors have been issued in re the following estates. The dates are those of the "London Gazette" in which the notices first appeared.

- BOWEN, JOHN HUGHES, 9 Prince of Wales Road, Kentish Town, and 91 Wigmore Street, Marylebone, chemist. Nov. 7.
 PICKERING, SAMUEL WHALLEY, 65 Bury New Road, Manchester, chemist. Nov. 6.
 WAGSTAFFE, THOMAS HENRY, Byers Green, Durham, surgeon. Nov. 8.
 WALCH, WILLIAM, sen., trading as WALCH BROS., Mexborough, Yorks, chemical manufacturer. Nov. 13.
 WHITFIELD, HENRY SPENCER, 116 Bolling Street, Bradford, chemist. Nov. 29.
 YOUNG, WILLIAM FROWD, Salisbury, chemist. Nov. 13.

SCOTCH SEQUESTRATION.

- LAWSON, WILLIAM, Laureneekirk, Kincardineshire, druggist. Nov. 20, with protection.

DIVIDENDS DECLARED.

- HAMES, JOHN (Bkt.), Barnstaple, Devon, chemist. 1st and final div. 1s. 7½d.; H. K. Thorne, Cross Street, Barnstaple.
 JEWELL, THOMAS W. (Insl.), Southsea, Hants, surgeon R.N. 4th div. 7½d.: any Tuesday between 11 and 2; Provisional Assignee's Office, Portugal Street, Lincoln's Inn.

PARTNERSHIPS DISSOLVED.

- BARKER & LAFARELLE, Colleshill, surgeons.
 BAXTER & PARKINSON, Ramsbottom, Lancashire, drug manufacturers.
 COX & BIGGS, Birmingham, surgeons.
 FRY & HILLIARD, Frimley, Surrey, surgeons.
 RAMSAY & DENTON, Saltuey, Flintshire, manufacturers of chemical products.
 WILLIAMS & FITZHUGH, Nottingham, chemists.



For particulars of Advertisements, Subscriptions, &c., please refer to the first page of Literary matter. An Index to the Advertisements contained in this issue will be found in the front portion of the Journal.

OFFICE—Colonial Buildings, 44a Cannon Street, London.

RENDALL'S THEOBROMINE, OR CONCENTRATED COCOA,

BEING a first-class article, and nicely got up, commands a good sale by all Chemists who bring it under the notice of their customers.

In 1s., 2s., 3s. 9d., and 7s. 6d. tins, through the Wholesale Houses, or direct from the Proprietor,

J. M. RENDALL,
28 QUEEN STREET, EXETER.

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"LEA & PERRINS'" SAUCE, THE "WORCESTERSHIRE."



In consequence of Spurious Imitations of LEA & PERRINS' SAUCE, which are calculated to deceive the Public, LEA & PERRINS have adopted a NEW LABEL, bearing their Signature, thus—

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Which will be placed on every bottle of WORCESTERSHIRE SAUCE after this date, and without which none is genuine. Sold Wholesale by the Proprietors, Worcester; Crosse & Blackwell, London; and Export Oilmen generally. Retail, by dealers in Sauces throughout the World.

November, 1874.

POROUS BATTERY CELLS
OF SUPERIOR QUALITY.
PATENT PLUMBAGO CRUCIBLE COMPANY,
Sole Makers of Morgan's Patent Crucibles,
BATTERSEA WORKS, LONDON, S.W.

**IMPORTANT TO CHEMISTS,
SODA WATER MANUFACTURERS, AND OTHERS.**

Removal of Lead from Water.

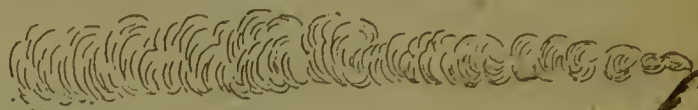
THE SILICATED CARBON FILTER

Entirely removes Lead from Water, thus meeting the complaints that arise from time to time as to the presence of Lead in Aërated Waters.

For confirmation of this assertion, see the opinions of such authorities as Dr. BARTLETT, Professor WANKLYN, and others, at page 74.

REDUCTION IN PRICES.

GENERAL MINERAL WATERS DEPÔT
27 MARGARET STREET, REGENT STREET,
LONDON.



Editorial Notes.

COUNTER PRESCRIBING.

WE have often had occasion to remark on the peculiar obliquity of vision manifested by many members of the medical profession in assuming that the State has endowed them with a vested interest in the diseases which afflict its subjects. Nothing could be more inaccurate, and the most clear-sighted physicians are quite aware of this. The principle which has guided the State in all Acts affecting the medical profession is clear enough to any one who knows anything beyond the titles of these. The law recognises the right of any sick person to consult whomsoever he pleases, but any person securing the confidence of that patient by false pretences of legal qualifications may be punished. Qualified persons or unqualified persons are alike liable to punishment for injury inflicted by them through ignorance or want of skill. For once, and for once only, in the case of *Society of Apothecaries v. Nottingham*, a judge has interpreted the law in a sense contrary to this view. Baron Bramwell says in effect that according to the Apothecaries Act a chemist and druggist may not exercise the privilege accorded to every other human being under the sun—that is, of giving advice. And this, notwithstanding the fact that in that Act chemists and druggists are expressly exempted from—nobody knows what if Baron Bramwell's judgment be sound. Of course, these words of Baron Bramwell's did favour the view that the law regarded disease as a special property of the medical profession. Some of the eager country correspondents of the medical journals gushed forth at the welcome news, and thought an era of fortune was about to arise for them. They called on the authorities to make short work of druggists all through the country forthwith. But the authorities have shown themselves more cautious. They know the temper of Parliament towards themselves too well. It is not, therefore, if these considerations are justified, a sign of great intelligence on the part of the youngest of the medical journals, the *Medical Examiner*, that it should condescend to become the mouthpiece of the passionate practitioners of Coventry and Nottingham. It sometimes pays, but it is never creditable, to play to the galleries. What can any intelligent person, who should be neither a doctor nor a druggist, think of such remarks as these in a leading article professedly written by a member of an educated profession? "Our protest is uttered in behalf of those members of our profession whose dignity, no less than their pecuniary interests, must be affected by the impudent and unauthorised infringement of their rights." "No systematic assumption of our privileges by those at once socially and intellectually our inferiors should be passed over or connived at." "Such loss falls principally upon those who can ill afford encroachment upon their rights." "If these persons, presuming upon long indulgence and arrogant in the assumption of duties higher than those for the discharge of which they are certificated, enter upon an organised defence of the infringement by their body

of the rights and privileges which belong only to the medical profession, they will find but little either of justice or popularity in their cause." All this abuse, be it remembered, refers exclusively to simple counter prescribing. The italics are ours; they indicate the phrases which betray the extraordinary assumption which we referred to at the commencement of this note. Unless that assumption be granted the whole of our contemporary's rant is ridiculous. That any human being of the most moderate pretensions to culture should knowingly support such a theory is inconceivable, and therefore, however socially contemptible we may be, we may reasonably decline to admit our intellectual inferiority to the writer of the rampant nonsense from which we have quoted, and which will be found in full on another page.

MILK OF SULPHUR.

ASHTON-UNDER-LYNE has the advantage of possessing a chemist who to his pharmaceutical attainments adds medical, legal, and clerical qualifications. Dr. Newton, as he is there known, is a chemist and druggist, a general practitioner in full practice, with the M.R.C.S. qualification, and a preacher licensed by the bishop of the diocese to instruct his neighbours in the mysteries of the Christian religion. Unfortunately, this list does not exhaust the versatility of Dr. Newton's genius. All these functions he exercises on those individuals who voluntarily submit themselves to his attentions. But Dr. Newton is also a county magistrate, and in this capacity his jurisdiction of course extends to some who are compelled by circumstances over which they have no control to hold an interview with him. His technical knowledge, it might have been expected, would have been of good service when that inevitable Wandering Jew of a miscreant, the "milk of sulphur case," should turn up before him. At the Hyde Sessions last month the opportunity came. Dr. Newton was chairman of the magistrates. Mr. Jonathan Harrison, druggist, of Hyde, was charged with having sold some milk of sulphur which contained 39 per cent. of sulphur and 61 per cent. of hydrated sulphate of lime. With this frightful case before him, Dr. Newton is reported to have taken the opportunity of terrifying some half-dozen parishes by remarking that "if a drachm of this mixture were given to a child the results in all probability would be that the ingredients would become hard, cause congestion and inflammation of the bowels, and even death. He had no doubt the mortality among children was largely owing to the introduction of mysterious substances into their little bodies." He thought the defendant, however, had sold the compound with no guilty knowledge, and therefore he mitigated the fine to 5s.

Whatever may be said of the defendant's "guilty knowledge," the presiding magistrate may at all events be credited with a very large share of real or assumed guilty ignorance. Is it possible that he, a druggist, a doctor, and a lawyer, was unaware of the discussions that have taken place inside and outside the law courts on this very subject; of the repeated legal decisions, given after exhaustive arguments, authorising the sale of this old-established compound; of the opinion of many medical and scientific men of far greater eminence than himself as to the value of the preparation as a medicine? The doctor with his many avocations calls to mind an old English proverb, which, however, we will not be so discourteous as to quote.

But the most striking feature in the narrative is yet to come. Some of the chemists of Ashton-under-Lyne, especially Mr. Waterhouse and Mr. Bostock, interested themselves in the matter, and soon after the magisterial denunciation one of them purchased at Dr. Newton's own shop a sample of "milk of sulphur," informing the seller that the same would be analysed.

Their own examination of the article satisfied them that it was a precisely similar mixture to that "mysterious substance" which Jonathan Harrison had been planting in the "little bodies" of Ashton-under-Lyne, and which that great medical authority, "Captain Arrowsmith, chief constable," asserts to be more deadly than half-a-dozen plagues. Some of the milk of sulphur bought from Dr. Newton's shop was sent to Professor Attfeld, of London, who reports on it thus:—"Sample of milk of sulphur, marked No. 1:—Sulphur 40, sulphate of lime 60 per cent."

We respectfully submit this history to the Lord Chancellor. We think, if the facts are as we have recorded them, and they can easily be verified, his lordship will agree with us that Dr. Newton might fairly be requested to resign either his magisterial or his pharmaceutical functions, as he evidently finds it impracticable to carry on both consistently.

ESTABLISHING A MEDICAL PRACTICE.

THE *Medical Press and Circular* has been sued for libel by a Clerkenwell surgeon named James Oliphant Betts. The plaintiff, it appears, had conducted a dispensary in Exmouth Street, Clerkenwell, and had issued circulars offering advice and medicines to all comers, at the moderate rate of 4d. per head for morning visitors, or 6d. a head for those attending in the evening. The lower price for day work is due to the larger average of infant patients in those hours. The circular offered an alternative of a contract price of 1s. per week. With lofty indignation our contemporary commented on the "priceless advice, and [the material which he describes as medicine," and went on to wish Mr. Betts' constituents "joy of the advice they get; the second undertaking (the supply of medicine) we unhesitatingly say, he does not and cannot fulfil, unless he is content to pay away his own money for the sake of humanity, a sentiment which one does not look for in a high state of development in a Clerkenwell fourpenny dispensary. He might, perhaps, give a little nasty-tasting liquid and a dose of salts, but anything more efficient is impossible if a profit is supposed to be made. The strange part of the story is that large sums of money are really made by these dodges."

Mr. Betts objected to this rough kind of treatment, and for once went into quite a different sort of figures. He estimated his damages at 1,000l., and the trial came on. Plaintiff said he always gave what was necessary, even if it cost a shilling on the average. However, he found he could make a very fair profit at 4d. He gave 6-oz. bottles, with a supply for two days. Being pressed to show his record of cases, he said he kept no books whatever. His object, he said, was to get a connection together, and when sufficiently established, he intended to close the dispensary and keep that portion of the practice which paid best. Some remarkable evidence was then given. Dr. Turle, a retired practitioner, said that with a large number of patients medicine could be given at a penny per head. He had himself established a practice yielding 2,000l. a year by starting a dispensary at which he gave advice and medicine to all comers without any charge whatever. The secretary of the Finsbury Provident Dispensary stated that the average cost of drugs supplied there was 1½d. per head. On the other side, Dr. Jacob, the Dublin editor of the *Medical Press*, and writer of the article in question, said that in the City of Dublin Hospital, where he had been surgeon, the cost per head for drugs bought wholesale was over 5d. Mr. Defriez, the dispenser at the Royal Westminster Ophthalmic Hospital, had found that the cost for drugs, bought wholesale, in an ordinary day's dispensing averaged 4½d. per head. The jury gave a verdict of 50l. damages. The condemned journal estimates that the expenses will amount to some hundreds of pounds. The proprietors are submitting very amiably to a subscription towards the expenses, which is being worked on their behalf by some eminent physicians.

GLYCERINE A POISON.

SOME French chemists (Dujardin Benumetz and Andijo) have discovered deadly properties in glycerine when administered to dogs. They state that 10 grammes of pure glycerine will prove fatal to a dog weighing 1 kilogramme, and so on in proportion. If the same ratio holds good for our own species, it is obvious that a pound of glycerine would dispose of a man or woman weighing not more than 100 lbs., which many fragile ladies at any rate do not exceed. The authorities quoted declare that anatomic examination reveals very striking similarity between the toxic effects of glycerine and those of alcohol. At the present moment there is not much danger, we apprehend, of any serious mortality from glycerine, but when the fact just referred to becomes generally known the demand for glycerine may be expected to augment enormously, so frantic is the desire for alcoholic poisoning in a large section of our population.

U. S. TRADE MARK PENALTIES.

THE late Act of Congress imposes very stringent penalties for the protection of trade marks. It provides that any person who shall make, order, or in any way procure the fabrication of a counterfeit trade mark, or any colourable imitation of a trade mark, registered in accordance with the laws of the United States, shall be fined not exceeding \$1,000, or imprisoned not more than two years, or both. This penalty applies to all those who affix the fraudulent trade mark, or in any way handle it or have it in possession, or fill the package with it on, or handle or have the dies or moulds, brands, or any likeness, imitation, or fraudulent device of any kind in imitation of a trade mark; or who buy, sell, offer for sale, deal in, or have in possession any used or empty box, envelope, wrapper, case, bottle, or other package, to which is affixed, so that the same may be obliterated without substantial injury to the package, any trade mark not obliterated so as to prevent its fraudulent use. Any abettor to violation of the law is to be fined \$500, or imprisoned not exceeding one year. It would be difficult to frame a more stringent law than this, and we trust that, specially in the interests of British exporters to the States, it may be most rigidly enforced.

CINCHONA FEBRIFUGE.

MR. C. H. WOOD, the Government quinologist in India, contributes to the *Journal of Applied Science* a detailed account of the process adopted at Sikkim for the production of the alkaloids from cinchona bark. The result seems to be a general mixture of the several alkaloids, and if their use should prove medicinally valuable the present method, which is at present only tentative, will be conducted in a more perfect manner and with such machinery as will render the process more economical and exhaustive. It was considered undesirable to incur any large expenditure for factory buildings, machinery, or skilled labour, until the efficacy of the product as a remedial agent had been thoroughly determined by extensive trials. Consequently, it was necessary so to arrange the process that it could be conducted for some time on a considerable scale and involve no other appliances than such as were already at hand.

The dry bark is crushed into small pieces, but not powdered, and is put into wooden casks, where it is macerated in the cold with very dilute hydrochloric acid. The liquor is then run off into wooden vessels, and mixed with an excess of a strong solution of caustic soda. A

precipitate forms, which is collected on calico filters, and well washed with water. The precipitate is then dried at a gentle heat, and powdered. It constitutes the crude febrifuge, which is next submitted to a process of purification. In the latter process a certain weight of the crude product is dissolved in dilute sulphuric acid, and a small quantity of a solution of sulphur in caustic soda is added to the liquor. After the lapse of 24 hours the liquor is carefully filtered. The filtrate is mixed with caustic soda, and the resulting precipitate collected on calico, washed with a small quantity of water, dried and powdered. It is then ready for issue, and is sent out under the name of "Cinchona Febrifuge."

In this process dry *succirubra* bark only is employed. The factory is estimated to turn out during the present financial year 4,800 lbs. of febrifuge, which, at one rupee an ounce, is estimated to pay the whole cost of the plantations and manufacture for the year.

QUININE IN BURMAH.

THE cultivation of the cinchona tree is rapidly extending, not only in the British possessions in Asia, but likewise in the kingdom of Burmah, many districts of which seem especially suitable for its cultivation. Last year in the Sittomy Division alone there were 30,000 plants, and space was being cleared to double that quantity. The king, it is said, looks upon this cultivation with contemptuous toleration, and fails to see the sense of growing trees for the sake of getting a bitter product from its bark. But some of his subjects are beginning to appreciate the wonderful febrifuge properties of the quinine, which is coming into use among them; so much so indeed that some of the wealthier natives keep a bottle of the precious deliverer in their houses, to be worshipped as a god. It is not unlikely that Burmese bark will shortly make its appearance in European markets.

FATAL DISPENSING ERROR IN AMERICA.

A CONSIDERABLE sensation was caused in Cincinnati (U.S.) some few weeks ago by a druggist's error, resulting in the death of one of the most prominent and respected residents of that city. The deceased, Micajah Bailey, 68 years of age, was prescribed for by Dr. Labaree for a disease of the kidneys. The doctor ordered one ounce of prussiate of potash in four ounces of water. The prescription was taken to a young druggist in the city, named Wolsten. The druggist, not quite sure about "prussiate of potash," referred to the U. S. Dispensary, and, finding the synonym ferrocyanide of potassium, immediately dispensed, not the ferrocyanide, but the cyanide. The patient died, of course: the druggist was arrested, but admitted to bail.

SOCIETY OF ARTS' LECTURE PROGRAMME.

THE society commenced its winter season on November 29, on "The Construction of House Drains," by Major-General F. C. Cotton, C.S.I. This was followed on December 6 by Captain Douglas Galton, F.R.S., on "Street Tramways." On December 13, Mr. E. Meyerstein described a new process of printing a number of colours at one impression, and on December 20 Professor Archer is announced to lecture on "The Philadelphia Exhibition."

The following courses of Canton lectures have also been announced:—By Mr. George A. Thrupp, five lectures on "The

History of the Art of Coachbuilding;" by Mr. A. Vernon Harcourt, F.R.S., a course on "The Chemistry of Gas Manufacture;" and by Mr. Sydney Colvin, M.A., a course on "The Connection of Greek and Roman Art with the Teaching of the Classics."

On January 3 and 10, Mr. R. A. Proctor will give two juvenile lectures on astronomy.

ALCOHOL IN SEVERE CLIMATES.

SCOTCHMEN are in the habit of pleading the character of their climate as an excuse for their national tendencies whiskywards. No competent witness will deny that the climate does often offer considerable provocation, but a recently completed experiment scarcely seems to support the logic of the Scottish argument.

In the crews of the Arctic ships lately returned there were six abstainers. From a report published a few days ago in the *Times* it would appear that these were far less liable than their mates to scurvy or frostbites. In a sledging party of seven, which was away from the ship for 84 days, all succumbed to scurvy except Ayles, the only abstainer among them, and Lieut. Aldrich, who was almost an abstainer. Four other of the abstainers are also referred to as having kept their health perfectly, though they took fully their share in the hard work of the expedition. The sixth, who had previously enjoyed remarkably good health, yielded to the seductions of grog on one of his sledging journies. Then he found his appetite fail, and he was deprived of the refreshing sleep which he had formerly enjoyed. He was the only Good Templar who joined the expedition who was attacked with scurvy, and for this he was no doubt indebted to his unfaithfulness. He gave stimulants, he remarks, a fair trial, and he is now convinced that it was the grog which did the mischief. There were two or three other seamen who joined the temperance cause during the commission, and it is only fair to state that these novices suffered from scurvy like the rest of the crew. It may be noticed that the testimony of the whole ships' companies—doctors and officers included—is unanimous and conclusive against the serving out of stimulants during the day. They emphatically state that no work can be done upon grog, but many of them seem to cling to the belief that a glass at night was a sovereign recuperative agent, and fitted them for the fatigues of the morning. Dr. Colan, the senior medical officer on board the *Alert*, speaks very favourably of total abstinence as exhibited during the expedition, and his forthcoming report will possess much interest.

So much for the value of alcohol in a climate which our word "cold" by no means describes. The succeeding paragraph appeared recently in the *Lancet*, and shows the behaviour of the beloved fluid under contrary conditions:—

"The necessity of temperance in drink on the part of those whose avocations lead them to be exposed to the sun in hot weather cannot be too forcibly urged. Over and over again in India the immunity from sunstroke enjoyed by temperate men has been observed. It may be interesting now to recount Sir Charles Napier's description of his personal seizure while serving in India (as reported in Sir Ronald Martin's excellent work, 'The Diseases of Tropical Countries'): 'I had hardly,' writes Sir Charles, 'written the above sentence when I was tumbled over with heat apoplexy. Forty-three others were struck, all Europeans, and all died within three hours, except myself. I do not drink. That is the secret. The sun had no ally in liquor in my brain.'"

The public-house interest may still argue the question in respect to the effects of alcohol in medium climates, but they will need some ingenuity to overcome the force of the facts we have just quoted.

THE HYGEIOPOLITAN PHARMACEUTIST.



It is understood that the city of health suggested by Dr. Richardson is to be actually erected next spring on the south coast, within an easy distance of Brighton. Much interest will certainly be evoked by this scheme among theorists of every class, and the promoters of the enterprise will be in no danger of failing for lack of advice. It would be ungenerous if those many excellent gentlemen who have devoted their lives to pharmacy, and who are always ready with elaborate plans for the perfection of their profession, should withhold their assistance. Surely our old friend "who has known the drug trade thirty years" will oblige. There will then and there be an opportunity of establishing a model pharmacy, and, in the interests of his city, as well as in his capacity of chairman of the Medical Defence Association, Dr. Richardson would doubtless give his hearty assent and consent to such an idea. Let the Pharmaceutical Council take this subject into their serious consideration. Let them determine to produce a model pharmacist, one who shall meet the desires of their own hearts and who shall never incur any reproach from their condescending friends of the medical profession. Let them appoint one of their omnipotent committees to elaborate a series of rules which shall so hedge around his conduct that they may ultimately be able to point to him as a specimen of the article which during all these long years, by examinations and Pharmacy Acts, by lectures and laboratories, by inaugural addresses and silver medals, by deputations to foreign societies and grants to provincial associations, by evening meetings and *conversazioni*, by editors, professors, solicitors, secretaries, and committees, by microscopes, spectroscopes, polariscopes, blowpipes, tobacco pipes, champagne, tea, coffee, biscuits, and cake, through good report and through evil report, they have been aiming to produce. Let us try to imagine a perfectly satisfactory hygeiopolitan pharmacist, such as the learned and pseudo-learned societies and amateur legislators of our country would turn out if they could. Here is an indication of the rules which the committee might propose with the view of developing such an one:—

1. He must of course have been associated with the Pharmaceutical Society from his youth up, and equally, of course, he must be able to show a record quite free from association with any other trade society.
2. He must pass an examination before competent authorities to prove that he is utterly devoid of business qualifications.
3. He shall be required to discover at least one new alkaloid, and to detect lead in at least one hitherto unsuspected substance in the course of each twelve months.
4. He shall keep nothing in his stock but drugs and chemicals and pharmaceutical preparations: perfumery, patent and homœopathic medicines, and every advertised product shall be rigorously excluded.
5. He shall declare on the label of everything sold by him the exact chemical constitution of such substance, and shall be responsible for the exactness of such statement.
6. In the event of any accidental death in the city, resulting from a physician or surgeon's error, he shall at once step forward and give himself up to the police on a charge of manslaughter. His private property, reputation, and all he may have, shall be at the disposal of any public analyst or secretary of medical defence association who may wish for it.
7. He shall refuse to converse with any customer entering his shop. Even remarks about the weather might lead to phrases which might seem to suggest remedies for colds, coughs, diarrhoea, &c., which would infringe the Apothecaries Act; therefore it is thought best that he should be reduced to absolute silence.
8. He shall supply medicines of different potencies in bottles or packages of distinctive colours. If the existing variety of colours run out he shall invent new ones.

9. He shall keep every substance or preparation likely to be used in dispensing locked up in a separate cupboard. A witness shall watch the weighing or measuring of each article, and everything shall be exhaustively analysed before being dispensed.

10. If medicines fail to act as the physician expects the pharmacist shall be publicly disgraced.

11. He shall never be so discourteous as to observe an error in a physician's prescription: he shall dispense prescriptions exactly as they are written, and at the same time shall avoid any dangers resulting from hasty or careless writing. If he finds it difficult to reconcile these conflicting regulations, he must understand that the regulations shall remain, whatever may become of him.

12. His business shall be carried on under the inspection of a committee selected from the Pharmaceutical Council, the Society of Public Analysts, the Medical Defence Association, the coroners of Great Britain, and every policeman *ex officio*. The decision of any one of these shall be final, and if any of them should disagree, the pharmacist shall obey both.

Literary Notes.

THE Glasgow Chemists' and Druggists' Association have issued a new edition (the 4th) of their very successful price list. It may be obtained from Mr. J. A. Clarke, 132 London Street, Glasgow.

* *

WE have received a pamphlet on the analysis of milk, on its composition, and on the quality of the milk sold in Dublin and its suburbs, by Ernest H. Cook, now of the Bristol Trade School. The author found a modification of Wanklyn's process the most practicable method of testing. This he describes. To readers interested in the subject this pamphlet will no doubt be of service.

* *

THAT surprising and wonderful man, Henry Jenkyns, or to be exact, his heirs or successors, send us a copy of his almanac for 1877, which has been most effectively placarded during the past six weeks or so. He implores us to live 100 years, and in these pages suggests how we may accomplish this feat. Perhaps, however, other of our friends are not so desirous for our perpetuity. How can we please all parties?

* *

MESSRS. SANG & BARKER (Edinburgh) publish a very neat little visiting list for medical practitioners. It is handy for the pocket, and as simple in its arrangement as it could possibly be. If kept according to instructions, the practitioner will always have before him memoranda of his engagements, and at the same time a day book of work accomplished. It seems to us that if the space for marking the dates of visits were ruled with vertical as well as with horizontal lines it would add to the neatness, and would simplify the counting. A posological table is also added.

* *

MR. JAMES L. DENMAN, the well-known apostle of the Greek wines, has written a new little treatise, entitled, "Wine and its Counterfoits." Therein he collects and summarises, in a very readable manner, all the unkind things which can or have been said on the subject of ports and sherries. The little book will be more especially useful to established wine-bibbers; but the facts related are unquestionably more especially pleasing to teetotalers or those who confine their sanction of alcoholic beverages to the light natural wines which Mr. Denman so warmly recommends.

OUR DIARY FOR 1877.—When scientific, literary, and classical authorities all sing in unison the glories of our latest effort in diarial labours, what further need we say? Read what follows, sceptical pharmacutists, and send for extra copies at once. To subscribers, 2s. 6d. each. Not many left.

Mr. J. Tin Dale writes:—"Everywhere throughout our planet we observe the tendency of particles of matter to run into symmetric forms. Of this fact your Diary for 1877 affords a striking illustration. You tell me your mind fails to grasp the analogy. Then I will explain it in the twinkling of a molecule. Your Diary is built up of matter. But it is not simply matter of one special kind, nor even of one degree of organisation. It is complex; it is presented to us in various stages of development. From the protoplasmic simplicity of skeleton pages, the eye wanders across plains of utilitarian blotting-paper, till at length there is unfolded to its view endless varieties and forms of matter of the most interesting description, pregnant with information and endowed with the capacity to meet every requirement of the human mind. But is there in all these forms of matter any arrangement of the constituent particles? Are they not thrown together, as it were, by the hand of chance, without order or symmetry? Assuredly not. They exhibit, on the contrary, unmistakable signs of the most beautiful correlation. Your Diary bears the impress of the labours of many intelligences. To my mind it is second only in importance to the Book of Nature."

Extract from a letter from Mr. T. Kar Lisle.

* * * "Reverently, and with awe, have I opened your annual Diary. Given away! Hast thou, O man of pharmacy, thou weary drudger behind yon physic-laden counter, ever yet until now been the recipient of such Heaven directed lavishness? As for the journal emanating from that laboratory-imbued, sulphuretted-hydrogen-laden atmosphere of Bloomsbury, it struggles bravely; and from amid its sparsely filled pages and inextricably intertwined high scientific jargon there comes at least twice or thrice in the cycle of the year some grain of advice practical, or economic recipe, of avail to the work-a-day druggist. But hearken, O my hardly entreated brother drugseller, listen, O venerable old buffer, with thy thumb-besoiled, almost undercipherable recipe-book, within this boundless volume, lies a well-nigh inexhaustible mine of formulæ for thy highest prized medicaments. O Diary, worthy art thou of sublimest apotheosis!" * * *

Mr. G. Ladstone favours us with a halfpenny post-card to the following effect:—

"Sir,—In making use of your inestimable Diary, I find there are three courses open to me. In the first place, I can employ it in its more strictly legitimate sense, as a record of private transactions, such, for instance, as my periodical re-vaccination, or an account of my expenditure in post-cards; in the second place, I can substitute it for all the domestic recipe and cookery books my house contains; and, thirdly, I can use it as an universal directory, for I find in its advertisement pages information as to how, when, and where to buy every article which it can enter into the heart of man to conceive of, from a printing press to a pill, or *vice versa*. My mind is not yet fully settled as to which purpose I shall ultimately devote it; in the meantime, I shall find it indispensable for each of the three uses which I have above indicated.

I am, sir, your faithful servant,

G. LADSTONE.

Mr. F. Yungau, of Paris, holds the subjoined views:—

MONSIEUR,—Your Diary has come! It was announced to come, and it has come! France welcomes it. France! that is to say, the concentration of European civilisation. Paris welcomes it. Paris! that is to say, the concentration of French brilliance. I welcome it. I! that is to say, the concentration of the Parisian idea. For Paris is an idea. France is an idea. The Diary is an idea. What is that idea? The idea of the diary is business. It is usefulness. It is peace. And what is peace? It is a European confederation governed by Paris, with Germany under her heel. Let us all combine in the furtherance of that noble aim, that unselfish object.

N.B. Let your printer set each sentence in a separate paragraph. [We cannot spare the space.—Ed. C. & D.]

ENGLISH PATENT MEDICINES IN JAPAN.

IT having been discovered that Dr. Collis Browne's Chlorodyne was being imitated by native "artists" in Japan, Mr. Davenport, through his solicitor, brought the facts before our Foreign Office. The result is indicated in the subjoined letter:—

"Foreign Office, November 23, 1876.

"Sir,—Lord Derby referred to Her Majesty's Minister in Japan your letter of February 3 last calling his lordship's attention to certain frauds which it was alleged were being committed in Japan, both on the revenue of this country and on the proprietors of Dr. J. Collis Browne's Chlorodyne; and Sir H. Parkes was at the same time instructed to institute inquiries into the matter, and, should he find the facts to be as alleged, to take such steps as he might consider best calculated to put an end to the evil complained of; and I am now directed by his lordship to state to you for the information of your clients that a despatch has been received reporting that, having ascertained that the forgeries in question were carried on in an unconcealed manner and on an extensive scale, Sir H. Parkes at once brought the matter to the notice of the Japanese Government, with a request that they would adopt the necessary measures to bring the offenders to justice and to prevent a repetition of the offence of which they were guilty. Shortly afterwards he was verbally informed that the guilty parties had been discovered and arrested. Their trial, however, proceeded but slowly, and it was not until September 14 that Sir H. Parkes was informed that sentence had that day been pronounced, 70 days' penal servitude having been adjudged to the manufacturers of the spurious medicine, and 60 and 50 days respectively to the engraver and the printer of the forged labels, the profits of the fraud and the stock of counterfeit chlorodyne on hand having also been forfeited, as well as the money received for the engraving and printing.

"In conclusion, Sir H. Parkes adds that within a month after he had made his complaint certain 'Regulations for the issue of Licenses for Medicine' were published by the Japanese authorities, containing provisions for the analysis of all prepared medicines manufactured in Japan, and for the issue of license stamps to be attached to them, and these regulations, he trusts, coupled with the deterrent effect likely to be produced by the penalties imposed in the present case, will go far to prevent the repetition of offences of this class in the future.

"The original enclosures in your letter of February 3 are returned herewith.

"I am, sir, your most obedient humble servant,

"(Signed) TENTERDEN.

"Wm. Davenport, Esq., 21 Ely Place, Holborn, E.C."

Obituary.

BALK.—November 10, Mr. William Balk, chemist and druggist, Hull. Aged 63 years.

BEEDZLER.—November 9, Mr. John Beedzler, pharmaceutical chemist, Norton Folgate. Aged 27 years.

DITCHFIELD.—November 6, Mr. Thomas Ditchfield, chemist and druggist, Chorley. Aged 49 years.

ETCHELLS.—November 17, Mr. Henry William Etchells, chemist and druggist, Chorlton-on-Medlock. Aged 36 years.

EVANS.—October 31, Mr. Edward Evans, chemist and druggist, Sheerness. Aged 54 years.

FIFE.—November 14, Mr. John Fife, chemist and druggist, High Street, Sheerness. Aged 63 years.

JOHNSON.—November 17, at Southport, Mr. John H. Johnson, of the firm of J. H. & S. Johnson, of Church Street, Liverpool. Aged 71 years.

LONGFIELD.—August 22, Mr. Joseph Longfield, pharmaceutical chemist, Leeds. Aged 47 years.

MATHERS.—November 10, Mr. Jonathan Mathers, chemist and druggist, Glasinfryn, near Bangor. Aged 67 years.

PRICE.—October 20, Mr. Frederick Alfred Price, chemist and druggist, Foulsham, Norfolk. Aged 34 years.

TAYLOR.—November 5, Mr. Emanuel Taylor, chemist and druggist, Bradford-on-Avon. Aged 62 years.

Provincial Reports.

HULL CHEMISTS' ASSOCIATION.

THE first meeting of the present session of this association was held at the Cross Keys Hotel, on November 16, Mr. C. B. Bell, president, in the chair. Mr. J. F. Smith was elected vice-president, in the place of Mr. W. Staning, who had declined the honour conferred upon him at the annual meeting.

The president then delivered an inaugural address.

After thanking the association for conferring on him a second time the honour of presidency, Mr. Bell proceeded to discuss some of the subjects of interest which presented themselves. "First," he said, "There is a matter of very deep regret, and I am sure you will all coincide with that regret, which is, that our educational classes are not supported by the assistants and apprentices as they should be. I wish they could see the great advantages that would accrue to them by devoting more time to study than they appear to do at present, leaving the education of the mind until they go to the Metropolis. As one of the founders, and I believe I may take some credit to myself as one of the pioneers of the educational movement in this town, it is with deep anxiety I notice this seeming apathy.

"In the annual report read before the members in the year 1869 the following passage occurs, written by your then secretary: 'And during the forthcoming year your committee earnestly hope that arrangements will be made for the better education and advancement of apprentices and assistants.' I have read the paragraph that you may see I am not encroaching on anyone else; but I must bear my testimony to the spirit and energy with which the then in-coming president (Mr. Baynes) took the subject up, and how he laboured to bring the classes to success. To your executive it is a matter of the very deepest regret that the young men of the present day do not make use of the facilities offered them, especially when we observe the excellently fitted laboratory which Mr. Baynes, jun., has placed at the service of the students. I can only place it to apathy on the part of the junior members of the trade when I reflect that prizes of greater value have been given by this association than by any similar one and for smaller results. I trust that a brighter educational era is before us, and that Hull will send to Bloomsbury Square more than one or two who will return with pharmaceutical honours of the highest grade."

Referring next to the establishment of the Trade Defence Association, Mr. Bell said:—

"I must congratulate the promoters upon the great success which has attended their efforts, in the number of subscribers and the amount of money that has been given in donations. I would advise every chemist in Hull and district to join it. If any illustration is requisite to point out the advantages in joining it, need I point to anything more than the action taken in the Nottingham case? In this affair the energetic action of the Executive Committee was the means of the summonses being withdrawn.

"A Medical Defence Association has been established in this town, and may do much good if wisely directed. In all large towns there are some who use titles they are not entitled to, and the ignorant and uneducated are too frequently victimised by these sharks on the medical profession. It has been rumoured that this medical association is about to prosecute some of our trade for prescribing over the counter. After carefully considering the Apothecaries Act of 1815 I am unable to find anything in it to cause us much anxiety on that score—of course I mean for prescribing simple remedies over the counter. If a chemist visits, and gives certificates or papers stating cause of death, then he renders himself liable and places himself under the tender mercies of the medical association. If the trade carry on their business in the legitimate way they will have no cause for fear in the future.

"The next subject I wish to allude to is one that has of recent years frequently been to the fore. I refer to the sale of patent medicines by grocers; and as this matter was considered by your past committee, and nothing could be done to prevent anyone selling at cost price, it is highly desirable that the trade should maintain its independence in this instance, and continue to sell at the legitimate price. I regret much to learn that one chemist is disposed to lower the prices, so as to compete with grocers, for a chemist cannot fairly compete with

them; their articles are in everyday demand, whilst his are required occasionally, and the sale is very limited. A person may be tempted to buy four or six pounds of sugar to save a halfpenny per pound—he will require sugar every day. Who will purchase three bottles of medicine to save threepence or sixpence?

"At the present time our trade is in a very unsatisfactory condition. Most of the articles of our trade have increased in price; rents, rates and taxes are higher, coals and gas are dearer, assistants' salaries and errand boys' wages are larger, and living expenses generally have considerably increased during the last few years; and to meet this increased expenditure, competition, and in some cases unnecessary competition, has of necessity reduced the legitimate profits. The trade being now a more educated body, and the expense of learning the business having increased, it is much to be deplored that our future prospects are not of that healthy nature that could be desired.

"I regret that my remarks on the future have been of so dismal a character, and I hope I may be wrong in some of my impressions, and this to a great extent may be brought about by the sinking of petty animosities, narrowness of views, jealousy, &c., of fellow traders, by the expansion of more liberal ideas, by working shoulder to shoulder, for union is strength, and the determination of upholding the dignity, the honour, and the respectability of a trade which is fast passing away into a heterogeneous mixture of trades."

At the close of the address, Mr. Myers proposed a vote of thanks to the president for his excellent address: Messrs. Walton and Smith supported the same, and it was agreed to unanimously.

It was afterwards decided that the committee should make arrangements for the annual banquet, and that they should also meet to discuss the patent medicine question, and this concluded the business for the evening.

LEEDS CHEMISTS' ASSOCIATION.

The second general meeting of this association during the present session was held on Wednesday evening, November 15, in the library of the association, the president, Mr. Yewdall, in the chair. After the usual preliminary business, "A Biological Essay," was read by Mr. James Abbott, of which the following is a short abstract:—

The study of biology includes both animals and plants. The chemist, geologist, mineralogist, and physicist, deal with dead matter, the biologist with living.

Dead matter, such as crystals, increase by additions to their exterior, consist of homogeneous parts which have no definite and fixed relation to each other, and are bounded by straight lines and plain surfaces; they are formed, do not grow.

Organic bodies, on the other hand, consist of organs which go to make an individual, as a horse or a tree. They grow, assimilate, and proceed from parents like themselves. Every living body possesses the power of taking into its interior certain materials foreign to those composing its own substance, and of converting them into materials of which its body is built up.

The actions of living beings are accompanied by a corresponding destruction of the matter by which those actions are modified. Dead matter is completely passive. Types of life may be illustrated and explained by torula, bacteria, protococcus, and amœba. All living beings require oxygen, and if a fluid contains sugar torula can decompose it; taking its oxygen from it, liberating carbonic acid, and forming alcohol, &c. Bacteria bear the same relation to nitrogenous substances that torula do to saccharine. Protococcus, having chlorophyll in addition, can decompose carbonic acid, assimilating the carbon and giving off oxygen, and can also flourish in rain water containing tartrate of ammonia and earthy salts. Amœba are dependent on manufactured material, take in solid particles of food—which plants never do—and are distinguished as animals by never becoming enclosed in a sac; neither can they manufacture protoplasm from inorganic materials.

The life history of these and other forms were then briefly sketched.

A cordial vote of thanks was given to Mr. Abbott on the motion of Mr. Knowles, seconded by Mr. Hellowell.

SHEFFIELD.

CHEMISTS' AND DRUGGISTS' TRADE ASSOCIATION.

A GENERAL meeting of the chemists and druggists of Sheffield and district, called by the council of the Sheffield Pharmaceutical and Chemical Association, was held at the society's rooms, Tudor Place, Sheffield, on Wednesday, November 22, at 9 P.M., to meet the secretary of the Chemists' and Druggists' Trade Association, and hear from him a statement of the aims and objects of the association. There were upwards of forty persons present. Mr. W. Jervis, president, occupied the chair.

The minutes of the previous meeting of the local society having been read by Mr. Learoyd, the hon. secretary, the chairman said, that owing to the important nature of the business, he should not trouble them with any remarks, but simply introduce Mr. Haydon, who, as they were quite aware, had come to address them.

Mr. HAYDON then gave the history of the association, and explained its aims, objects, and contemplated system of organisation. In the course of his remarks he said that the association intended to proceed at once to the prosecution of unregistered vendors of poisons, by collecting the necessary evidence, and forwarding the same to the Pharmaceutical Society, as the power to actually take the proceedings is, by the Pharmacy Act, vested in that body. It was thought in some quarters that the Pharmaceutical Society would not accept help of this nature. He did not anticipate any hitch of this kind, as the difficulty the Pharmaceutical Society had hitherto experienced in instituting proceedings had been in obtaining the necessary evidence for dealing with particular cases, as many chemists would give the secretary information as to certain persons infringing the Act, but would refuse to go into court and prove the purchase of the poison. This difficulty had been acknowledged, and in substance often repeated by the secretary, as the Pharmaceutical Society has no official authority to undertake the collection of evidence of this nature.

Respecting co-operative trading, he said—That the drug trade was being seriously injured by these large trading companies was an unquestionable fact, and that some means should be taken at once to test the legality of their dealing in poisonous drugs was equally certain, but as the power to take the necessary steps to bring a case into the law courts was in the hands of the Pharmaceutical Society only, and the council objected to take action in the matter, the situation was very perplexing. That the stores were clubs and only supplied their own members was a hollow sham, as any one taking the trouble to peruse the reports and balance sheets of any of these so-called societies would at once discover. The number of "friends" (who of course were the public) trading at these stores, in some cases, amount to upwards of 15,000, as compared with about 7,000 of its members.

It is a fact worthy of note that since the association has been formed not a single case of prosecution of a member of the trade for an alleged infringement of the Adulteration Act had (as far as he was aware) taken place, whereas in the first six months of this year such prosecutions were increasingly numerous—prevention was better than cure.

Mr. ELLINOR moved the following resolution:—

That this meeting fully approves of the formation of the Chemists and Druggists' Trade Association, and thoroughly agreeing with its objects as expressed by the secretary, pledges itself to give it its hearty support.

Mr. RADLEY, in seconding the resolution, said he did so with confidence. He had, as they well knew, been connected with the Pharmaceutical Society since its formation, and he believed that the association now in question was one that would not interfere with the elder society. As they were aware, the council of the Pharmaceutical Society devoted themselves to the work of education and the support of the Pharmacy Act, and he was sure from personal knowledge that the council had quite enough on their hands already, and if they were ever so desirous of undertaking the duties proposed by the new association they could not possibly do so. They had for upwards of thirty years tried to raise the status of chemists and druggists, and he thought the machinery that had been set at work would do so thoroughly and effectually. The time seemed to have come for them to take steps for the defence of the trade from attacks and encroachments. They must all, every one of them, have found some inconvenience from the various requirements of the Poisons Act and other Acts of Parliament inter-

fering more or less with the free action of their trade. He took it that no chemist and druggist had the right to call himself a medical man; he quite disapproved of "Medical Hall" being put over a chemist's shop window, yet he contended, as a matter of ancient usage and of pharmaceutical rights extending over a great number of years, that members of the trade ought to be at liberty to attend to little ailments over the counter, to the benefit of the community at large. It was for them as chemists and druggists to say whether they would submit to that usage and prescriptive right being taken from them. He was very much gratified that there was now an association formed to take up the defence of the trade: it was one that they should all support, and he wished to impress on every one present the advantages of joining the association. It appealed to the personal interest of all, and he thought it was their duty to give it a very free and hearty support.

Mr. LEAROYD, in supporting the resolution, referred to the Medical Defence Association, and thought Medical Aggressive Association would be a more appropriate title. He held, with Mr. Radley, that they had, and always had, from before the passing of the Apothecaries' Act, the right to prescribe. He was much pleased that the association proposed to take up the contravention of the Poisons Act; it did away with the individuality in these cases, local associations having the onus of collecting evidence. There had been a great want of something of the kind, and he should give it his hearty support.

Mr. CUBLEY said the subject had been very lucidly put before them by the secretary. He was very much pleased with the mode of constituting the association: it was thoroughly representative, as it gave each district the right of sending a representative of its own choice to the general committee, and thereby of acquiring a knowledge of the different customs in each district, with the peculiarities or any particular hardships affecting that part of the country, and the best means of dealing with them. In the constitution of the Pharmaceutical Society it was different. There were other points the association would find from time to time crop up; for instance, the registration of firms. It seemed a small thing, but they had no means at present of getting correct information as to whether all the parties trading as Diddleum & Co., or any other firm, were really registered men; he, therefore, thought one of the objects of the new association should be to promote a Bill for the registration of firms. He should most heartily support the association, for so long as the druggist could be caught unprotected, and they could fight him by himself, he would be beaten, because he frequently could not find the time and money to ensure a good defence. That was the way they were beaten one by one, but let them only combine and get, say 4,000 or 6,000 members, and the case would be very different. He would impress on those present the necessity of joining the association.

Mr. C. IBBITT also supported the resolution: he said, although they had not been yet much troubled with co-operative trading, there was a very large co-operative store in course of erection in Trippett Lane.

The chairman then put the resolution to the meeting, when it was carried unanimously.

Mr. RADLEY inquired, if any members were served with a summons, and if in their opinion it was a case in which the association should defend them, would their proper course be to write direct to Mr. Haydon?

Mr. HAYDON replied that should any member receive notice of legal proceedings having been taken against him for an alleged infringement of an existing Act, the better course would be to write immediately to their headquarters at Birmingham, as in his (Mr. Haydon's) absence the honorary secretary looked over the correspondence.

Mr. LEAROYD asked if the association intended to support all cases which occurred.

Mr. HAYDON said any case which might be brought forward would be submitted to the Law Committee, and should it meet with their approval would be defended. He would call their attention to Rule 10, which stated the association retained within their discretion the right of determining what action should be taken in any cases suggested to it. He went on to say some considerable discussion took place when this rule was framed as to whether they should defend members only. He thought he should be able to make it very clear to all of them that it would in some cases be wise to defend a member of the trade although he was not a member of the association, as at any time such a person might become the subject of an unjust prosecution, and that in the absence of a good and sound defence

judgment might go against him. By this means a precedent would be formed which might, and in all probability would, be detrimental to the success of the association if called upon to defend a similar case for one of its members.

Mr. ELLINOR said that he should like to suggest that the association should be well supported. He further asked that all the members of the trade in the town should join their local association: it was to be regretted that so few did so, as it left them with the whole burden.

Mr. HAYDON said it gave him great pleasure to support Mr. Ellinor in his last remarks, and he felt quite satisfied that the association he represented would be materially strengthened and upheld in a variety of ways by the local associations up and down the country. Further than that, local associations did an immense good; they brought members of the same trade, who were perhaps necessarily somewhat jealous of each other, into friendly intercourse, and promoted a better feeling all round; they ceased to regard each other as opponents when they met together in that room; they talked to the persons sitting next them as friends, and the friendly feeling which sprang up at their meetings was to a great extent carried into their every-day life. He had also great pleasure in proposing a vote of thanks to their chairman; he wished to add his own personal thanks for the very able manner in which he (the chairman) had supported him.

Mr. APPLETON seconded the resolution, which was carried with acclamation.

Mr. JERVIS, in replying, thanked them exceedingly for the kind manner in which they had received Mr. Haydon's proposition. He might say he had the honour of representing them on the executive committee of the association, and he assured them that should anything go wrong with any who had become members, they need not fear; if they had done nothing illegal, they would have his strenuous assistance.

Mr. WILSON proposed a vote of thanks to Mr. Haydon, which was seconded by Mr. Learoyd.

Mr. HAYDON having replied, the proceedings were brought to a conclusion.

Every person in the room joined the association. Sixty-six chemists in Sheffield are now members.

WOLVERHAMPTON.

THE Chemists' and Druggists' Trade Association was opened for the current session on the 21st ult. There was but a small attendance. The president (Mr. Fleeming) having briefly opened the proceedings, the hon. secretary (Mr. W. G. Brevitt) read the council's report. In this much regret was expressed in reference to the loss sustained by the removal of the second hon. secretary, Mr. F. J. Barrett, to whom the society owed very much of its success. In the course of some remarks, addressed chiefly to apprentices and students, on the subject of examinations, Mr. Brevitt said:—"I need scarcely tell the apprentices of the present day that they have their work to do, and it is only by diligent application that they will succeed. There is no doubt that the examinations are more severe than formerly. I question very much the propriety of making them so, for when we see more rejected than pass—I for my own part think—it is a sign that there is too much severity exercised. In the selection of examiners I would much prefer men of the stamp of Jacob Bell, Peter Squire, John Garle, and Henry Deane, than those that are selected principally because they have distinguished themselves as students, and have taken the chief prizes. I may be wrong, but I think they rather expect others to be as clever as themselves. However, when young men see that some of their fellow-students pass, it shows it may be done, and they must then be determined it shall be done."

At the same meeting Mr. Haydon, secretary of the Trade Defence Association, read a paper setting forth the objects of his society, and his remarks were supported by the president and by Mr. Carmell.

Some prizes for essays having been offered for competition, those sent in were submitted to Mr. W. Southall, Birmingham, for his opinion as to their respective merits. His decision is as follows:—First, "On Ergot and its Preparations," Mr. W. B. Cooley; second, "On Pepsine," Mr. F. J. Fletcher; third, "Olla Podrida," Mr. J. H. Jones. In a letter accompanying his decision, Mr. Southall congratulates the association upon possessing students of such ability, and he further says that the essays show the result of much thoughtful labour. The prizes will be presented at the next general meeting.

PHARMACEUTICAL SOCIETY OF IRELAND.

The monthly meeting of the council of the above society was held at the College of Physicians, Kildare Street, on Wednesday, December 6, Sir D. J. Corrigan, president, in the chair. The following members were present: Dr. Aquilla Smith, vice-president, Mr. Wm. Allen, Dr. Collins, Dr. Frazer, Mr. Goodwin, Mr. W. Hayes, Mr. E. M. Hodgson, Mr. J. T. Holmes, Mr. Payne (Belfast), Dr. Emerson Reynolds, Dr. Ryan, and Professor Tichborne.

On the motion of Dr. A. Smith it was resolved—

That a woodcut of the seal of the society be obtained.

That it be referred to the Finance Committee to prepare an abstract of the treasurer's account to October 1, 1876, to be published in the Calendar for 1877.

Proposed by Mr. PAYNE, seconded by Dr. SMITH—

That a copy of the Calendar be presented to each member of the Pharmaceutical Society, and that the registrar be requested to forward the same.

Proposed by Professor TICHBORNE, seconded by Mr. HOLMES—

That a form of certificate be printed for the pharmaceutical chemists who are registered as such, but who have not been examined by this society; a fee of 10s. 6d. to be paid for the certificate.

A long discussion took place.

Dr. SMITH considered such certificates quite unnecessary, and objected to two different forms of certificates being issued by the society.

Mr. GOODWIN said that he had considerable difficulty in getting his name struck off the jury panel through being unable to produce a certificate.

Mr. HOLMES stated that very recently, on applying for a public appointment, he was asked for his certificate, and he was of opinion that he would have secured the appointment had he had one.

Drs. FRAZER, RYAN, and SMITH were of opinion that the Act of Parliament was as good a diploma as could be wished for.

The motion was put to a division, with an equal show of hands, the president declining to vote.

Mr. HOLMES said he was of opinion that according to the Act the president was bound to give his casting vote.

The president voted against the motion, which was lost.

On the motion of Professor TICHBORNE it was resolved:—

That the first evening meeting of the members of the Pharmaceutical Society of Ireland for the reading of pharmaceutical papers be held on January 3, 1877, and that a programme of the papers to be read be sent to the members of the society a week before the meeting.

In accordance with the following notice of motion a deputation of pharmaceutical chemists was introduced by Mr. Holmes:—

To receive deputation of pharmaceutical chemists to hear their opinion on the privileges of membership of the society and other matters of interest to pharmaceutical chemists.

The following formed the deputation:—Mr. C. Mannin, Mr. Keatly, Mr. Ferguson, and Mr. Keogh. After some conversation the deputation drew up in writing the purport of the interview, and handed in the following:—

The deputation wishes to know, Will the Council of the Pharmaceutical Society prosecute in cases of infringement of the Pharmacy Act?

The deputation was requested to withdraw until the council discussed the question.

After considerable discussion the following reply was adopted and read to the deputation, and the registrar was instructed to forward a copy of the resolution:—

"The council desire in reply to state that they cannot undertake to act as public prosecutors, as, in their opinion, the Act of Parliament—Pharmacy (Ireland) Act, 1875—provides for the prosecution of offenders by aggrieved parties without the interference of the council."

The deputation thanked the council and withdrew.

* *

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—Will you kindly give me space to correct an error in the report you give of last month's council meeting of the Irish Pharmaceutical Society.

Dr. A. Smith's motion requiring the attendance of the retiring members of council to be inserted in the voting paper at the

annual election was seconded by myself, and not by Mr. Holmes. I should not trouble you with this correction had not Dr. Smith brought the notice of motion forward at my suggestion.

Oxford Buildings, Belfast:

December 7, 1876.

I am, yours truly,

J. C. CHAS. PAYNE.

MEETING OF IRISH PHARMACEUTICAL CHEMISTS.

A meeting of pharmaceutical chemists was held at the Molesworth Hall, Dublin, on Monday, November 13, for the purpose of considering the desirability of forming a defence association. Mr. C. Mannin was voted to the chair. Mr. J. T. Holmes acted as secretary to the meeting, and read a large number of letters from various parts of the country, approving of the formation of such a society. Several of the writers expressed a strong opinion that it is the duty of the council to protect the rights of the licentiates of the society. Mr. Holmes explained that the matter had been discussed on several occasions by the council, and he was of opinion that the majority of the members were determined not to interfere in prosecutions. A communication had been received from Mr. Haydon, the secretary of the Chemists' and Druggists' Trade Association in England, calling attention to a resolution passed by that body at a recent meeting, to the effect that if Irish chemists desired it the association might be disposed to extend its operations to Ireland. After considerable discussion, it was resolved to appoint a deputation to wait on the council, and get a decisive answer as to whether or not the council would prosecute in cases of infringement of the Pharmacy Act, and get their reply before going further into the matter.

The following were appointed as a deputation to wait on the council at its next meeting:—Mr. C. Mannin, Mr. H. Bennett, Mr. P. Keatly, Mr. Ferguson, and Mr. Keogh.

Mr. GRINDLEY, in proposing a vote of thanks, said that pharmaceutical chemists were much indebted to Mr. Holmes for having taken the matter up, and for the active interest he took in the society.

There was a large attendance.

The adjourned meeting for the purpose of receiving the report of the deputation was to take place on Wednesday, December 13.

THE CHEMICAL SOCIETY.

Thursday, November 16, 1876.

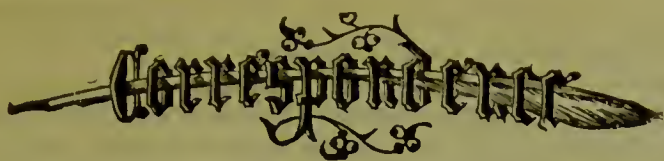
PROFESSOR ABEL, F.R.S., President, in the chair.

After the ordinary formal business, a paper "On Barwood," by the late Professor Anderson, was read by the secretary, describing the method of preparation of bapturin, and of some of its educts. The second communication was "On the Alkaloids of the Aconites: Part I., On the Crystallisable Alkaloids contained in *Aconitum Napellus*," by Dr. C. R. A. Wright, in which he gives the methods for obtaining pure aconitine, $C_{33}H_{45}NO_{12}$, and describes several of its compounds; also another comparatively inert alkaloid, *picraconitine*, sometimes present in *A. Napellus*. Mr. G. S. Johnson then read a paper "On Potassium Tri-iodide," succeeded by one "On the Coal Gas of the Metropolis," by Mr. T. S. D. Humpidge, who, from analyses of different samples and determination of their illuminating power, comes to the conclusion that the gas at present supplied is but little if any better than it was 25 years ago. This paper gave rise to considerable discussion, after which the meeting was adjourned to Thursday, December 7.

Thursday, December 7, 1876.

DR. J. H. GLADSTONE, F.R.S., Vice-President, in the chair.

After the usual business of the society, Professor A. H. Church read a paper "On Colein," the red colouring matter of the stems and leaves of the *Coleus vershaefellis*. It is an amorphous substance of a brilliant crimson colour, unalterable by the action of light or of dilute acids, but easily decomposed by alkalis. Dr. Otto Witt then made a short verbal communication "On Phenylenediamine," obtained from dinitrobenzene by the action of reducing agents; after which the secretary read a paper by Mr. J. B. Hannay "On Calcium Sulphate," and Mr. G. S. Johnson communicated some "Additional Notes on Potassium Tri-iodide." The meeting was then adjourned until Thursday, 21st, when Professor W. N. Hartley will read a paper, entitled "A Further Study of Fluid Cavities."



INTERNATIONAL ENTERPRISE.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

M. LE REDACTEUR DU "CHEMIST AND DRUGGIST,"—To you I would have presumed to have the honour to write some time since, but I was waiting till master of your Langage Anglais more perfectly, as I have a grievance to point out to the kind notice of your journal most important. I am the propriétaire of "Le Sirop des Docteurs Blaque and Dâche pour la guérison des malades imaginaires." Of its virtus unnumerable I would not wish your space to occupy for to dwell upon. But, as to me it is known that much suffering is in England from malades imaginaires I was anxious to make the philanthrope to your great country by introducing to the English nation the sirop celebrated already all over France and her colonies. While considering how I could this effect best I was visited by a most charming English gentleman (commis-voyageur of a Droguiste en-gros). To this opportune visitant I made inquiries to this purpose. The gentleman was very amiable and interested himself much in my affair. "Nothing," said he, "is easier of doing or more simply done. All you owe to make is to advertise in the price current of my firm, which is the standard reference book of all druggists, physicians, surgeons, savants, chemists, hospitals, and charitable institutions all over the world, and such a sale will then arise that you will want another immense factory to meet the demand resulting." Moi, j'étais enchanté. I would enlarge my factory at once, and I then asked my kind informant how much of the sirop he would require to meet the immense demand new to arise (through him). Said the gentleman, "To reason of the amount of your advertisement, M'sieur." To conclude quickly, business was effected on that base between us, and the sirop despatched by me to the order of my benefactor.

I myself congratulated on the good fortune to meet with English druggists not désobligeant and of such enterprising character to send the sirop all over the world, and then I found my benefactor had sold le sirop in France under its own sale price, in its native land, where it is already so well known and appreciated, to realise for the advertisement which flourishes yet in his price current. But the demand anticipated has itself not yet made felt.

Will you be good enough, dear sir, to receive my distinguished sentiments.

Château d'Espagne,
Prés de Paris.

VERTE
(Pharm. de la 1^{re} Classe).

PROVINCIAL "PHARMACALIA,"

WITH SPECIAL REFERENCE TO NEWCASTLE-UPON-TYNE.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—I must beg permission to trespass on your space, in order that I may vindicate myself from the charge of apparent false representation, in reference to the state of things (social or philosophical) in the pharmaceutical circles; for, as the defaulters are not likely to corroborate my assertions, I must support my own statements by further explanation and examples.

1. You have obviously misconstrued my letter which appeared in the columns of the *Pharmaceutical Journal* of October 28, and consequently your editorial comments tend to convey an erroneous conception of my ideas to those of your readers who have not seen the original article. For instance, when I used the expression, "several towns," where to my knowledge there exists any discord among the chemists, it does not follow that Newcastle is included, neither was it, because I am not yet sufficiently acquainted with the respective members of the trade to give an opinion on that point as far as masters are concerned.

2. Although two "stars" may shine in their profession in a certain city, it must not be taken for granted that all the other members are likewise to make bright orbits; indeed, it often

happens that exemplary characters soar above their ordinary spheres of labour, while geniuses invariably arise amid surrounding obscurity.

3. The wrong construction put upon the sentence ascribing jealousy and kindred spirit to both employers and *employés* is partly due to a typographical error—to wit, the substitution of "association" for "avocation;" hence the words "our association" were taken to imply the Newcastle one, but by this correction any ambiguity is removed.

4. One would infer from your remarks that I am a Novocastrian by birth, whereas I am a native of North Britain.

5. That I am not singular in being discouraged at the display of indifference in our line is evinced by the president's inaugural address at the Hull Chemists' Association, a few extracts from which I may note. He says, "It is a matter of very deep regret that the educational classes are not supported by assistants and apprentices in the liberal manner that they ought to be." Further, he notices the seeming apathy with deep anxiety—desires the sinking of petty animosities, narrowness of views, jealousies, &c., of fellow traders, and finally regrets the "dismal character of his remarks."

6. *Apropos* of the Chemists' Association of this town, I can now furnish particulars which, though anything but satisfactory, further strengthen my argument. Last month a general meeting was called to arrange for another session, but, alas! in answer to over 90 invitations by circular, six were all that mustered. These were comprised of the president, secretary, treasurer, and only three individuals in non-official capacity (including myself and another I dragged along with me). The result of the formal proceeding was a resolution to the following purport:—That the association be suspended *sine die*, rather than let it die altogether; that various effects be sold to defray expenses, and the museum specimens be stowed away in the cellars of one of the sympathising pharmacists in the neighbourhood.

Lastly. Neither of the scientific persons to whom, I presume, you allude, are members of the above, nor in any way patronise it.

I am, yours sincerely,

JAMES B. L. MACKAY.

Newcastle-upon-Tyne: December 6, 1876.

SLOVENLY CHEMISTS.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—I am not aware whether you are acquainted with some of those distinguished members of your profession whose diploma, suspended on the walls of their shop at acute angles with the moulding, certifies at once what else we may expect. Looking around the shop we find the jars and bottles on the undusted shelves with their labels facing any way but towards the customer, and often half filled with some opaque coagulable compounds of very suspicious appearance. The window, which ought to be the best part of the shop, is arranged with two or three carboys filled with what appears to be coloured ditch-water. A few show-cards are displayed, with chest protectors hanging in front of them, so that no one can read them; an elaborate display of the S. C.'s "Pilulæ humbugiensis," coated with sugar to make them more gullable, and a motley array of tooth powders, corn files, syringes, tooth brushes, gazogenes, and occasionally some old decayed biespids and molars, *not* extracted by the S. C., but purchased at 2s. 6d. per lb. for the purpose of making an unqualified dental practitioner appear to be a clever and skilful operator. The counter of the S. C. is in strict harmony with his window, the glass of which, stained with dust and rain, is possibly washed once a year. How different is the tastefully arranged window of the "oil and colourman" on the opposite side of the street. Let the reader look to his shop, and ask, "Does this cap fit me?"

Yours truly,

CYNIC.

"GIMME something to cure a boil," exclaimed a citizen, as he dashed into one of the drug stores, the other day. "Ah! so you've got one of the things now, have you?" smiled the clerk. "Yes, sir; and it's just in the right place." "Just in the right place?" repeated the clerk. "Why—why, where is that?" "On my hired man," was the sweet reply. And the clerk saw the point.—*American Paper*



DANGEROUS GOODS.

A CASE of considerable importance to chemical manufacturers and exporters was decided at the Liverpool County Court a fortnight ago.

By the Merchant Shipping Acts Amendment Act of 1873, sec. 23, it is provided that if any person sends by any vessel, British or foreign, any dangerous goods—that is to say, aquafortis, vitriol, naphtha, benzine, or other goods of a dangerous nature, without distinctly marking their nature on the outside of the package containing the same, and giving written notice of the nature of such goods to the master or owner, he shall for such offence incur a penalty not exceeding 100*l*. And, by section 27, it is provided that it shall be lawful for any court, having Admiralty jurisdiction, to declare such goods and any package or receptacle in which they are contained to be forfeited. The question to settle was, whether a chemical known technically as “zinc powder” or “zinc ash” should be regarded as coming under the definition dangerous.

Messrs. Richardson, Spence & Co., owners of the steamship *Lord Clyde*, trading between Liverpool and Philadelphia were the plaintiffs, and Messrs. Read Holliday & Sons, chemical colour manufacturers, of Huddersfield, were the actual, though their agents, Messrs. Irvine & Co., of Liverpool, were the nominal, defendants.

They had sent to the dock 20 kegs of this zinc powder for shipment to Philadelphia. The powder is a mixture of metallic zinc and grey oxide of zinc, and it is used as an auxiliary in indigo dyeing. These were shipped without notice that they were dangerous; the next morning, when the ship was appointed to sail, some of the goods in the hold were found to be on fire, and the plaintiffs alleged that the fire was caused by one of the kegs of the zinc powder getting damp and heating. The kegs were valued at 84*l*., and the damage occasioned, including one day's detention of the vessel, was estimated at 262*l*. For the defence it was alleged that, the top of one of the kegs breaking on the wharf, it was carelessly mended, some of the wet powder being put back into the cask. Also, that the labels were marked “To be kept dry; liable to heat if damp.” Scientific evidence was called on both sides. The judge said no doubt the goods were dangerous, and they should have been notified as such. He ordered them to be sold and the proceeds to be paid into Court to await, as also in regard to costs, a further order.

On the 4th inst. the same defendants appeared before Mr. Raffles, at the Liverpool Police Court, where the same case was gone into again. The magistrate fined the seuders 25*l*., and the agents 2*l*., plus costs in both cases.

AERATED WATER BOTTLES—PATENT STOPPERS.

BARRETT v. VERNON.

THIS was the trial (before Vice-Chancellor Sir James Bacon) of a curious action, which involved a nice point with reference to patent law. The plaintiffs, Messrs. Barrett & Elers, are patentees of a stopper for soda and aerated water bottles, by which an ingenious use is made of gaseous pressure. The invention offers advantages both in bottling gaseous liquids and uncorking them. It consists of a wooden plug or stopper, fitted with an indiarubber collar, of such construction that it allows the cylindrical plug to be pushed easily through the neck of the bottle one way, while if it were pushed the other the collar would form a perfect gas-tight check. A requisite to the proper user of the invention is that the material of the plug be of greater specific gravity than water. The mode of use is this: The plug is pushed into a bottle previously to its being filled; when full, the bottle is turned upside down; the weight of the stopper then causes it to fall into its place; and on the bottle being placed in an erect position the stopper is fixed by the internal pressure of the gas with which the liquid is charged. Thus, in addition to procuring a simple mode of filling the

bottle, the inventors have done away with the necessity of wiring, and enable the operator to open the bottle by simply pressing the stopper, without any shock to the nerves or bodily danger from the usual explosion. The defendant also took out a patent for an invention, as he called it, which differed from that of the plaintiffs only in his using a wooden material of specific gravity lighter than that of water. He applied the sinking power of the heavier material by a clip with which the workman can pull the stopper into its place, which, when there, will act exactly as the plaintiffs' stopper. The plaintiffs claimed an injunction on two grounds: In the first place, they contended that the device of the defendant was a mere equivalent to their invention; and, secondly, they said that, even if, when new, the defendant's stopper was legal, the effect of use was to saturate the lighter wood and make it of specific gravity greater than water, and thus bring the article within the very words of their specification. The defendant, on the first point, relied much on a disclaimer that had been made by the plaintiffs (by which they limited their invention to the use of lignum vitæ and other heavy material), and on the strict interpretation to be put on disclaimers; on the other question, though he admitted that in a few instances his stoppers had become heavy by use, he asserted that, as a rule, they did not do so.

Mr. Aston, Q.C., and Mr. Everitt appeared for the plaintiffs; Mr. Kay, Q.C., and Mr. Kekewich for the defendant.

The Vice-Chancellor decided both points in favour of the plaintiffs, and granted an injunction, with costs.

MILK OF SULPHUR.

At the Hyde petty sessions, Mr. Jonathan Harrison, druggist, Hyde, was summoned by Captain Arrowsmith, chief constable, for selling two ounces of milk of sulphur that was not of the nature, substance, or quality demanded by the purchaser. On November 18 the sulphur was purchased for the purpose of analysis, and on being tested by the county analyst was found to contain 61 per cent. of hydrated sulphate of lime, or the elements of plaster of Paris, and only 39 per cent. of milk of sulphur.

The chairman (Dr. Newton) said Captain Arrowsmith deserved credit for bringing this case before the Bench, as mothers gave the drug to their children for skin diseases, and if a drachm of this mixture were given to a child the results in all probability would be that the ingredients would become hard, cause congestion and inflammation of the bowels, and even death. He had no doubt the mortality among children was largely owing to the introduction of mysterious substances into their little bodies. In this case the Bench might have imposed a penalty of 20*l*., but believing the defendant had no guilty knowledge of what he was selling, they only inflicted the nominal penalty of 5*s*. and costs.

At the Dukinfield petty sessions on November 23, before A. Aspland, G. Newton, and J. F. Cheetham, Esqs., two similar cases were heard. Michael Coffey, provision dealer, Wharf Street, Dukinfield, was summoned at the instance of Captain Arrowsmith, deputy chief constable, for having on November 5 sold, to the prejudice of one Joseph Downs, milk of sulphur which was not of the substance and quality demanded by such purchaser.

Defendant said his wife had sold it, not knowing but that it was genuine.

Captain Arrowsmith said the proceedings were taken under the recent Adulteration Act, which came into operation last August. The particular section relating to the present case was 38 and 39 Vic. cap. 6, and during the past year a public analyst had been appointed to carry out the provisions of the Act. On the 15th instant he instructed Acting-Sergeant Joseph Downs to procure from the defendant's shop some milk of sulphur, knowing that the drug was largely used amongst the families of the working classes. The officer went to the defendant's shop and bought two pennyworth of milk of sulphur, and the sample was sealed up and sent to Mr. J. Carter Bell, of Manchester, the county analyst. He had since received a certificate from the analyst stating that the milk of sulphur obtained from the defendant's shop contained 59 per cent. hydrated sulphate of lime, or the elements of plaster of Paris. In these cases of adulteration he would like to reach the manufacturers of such rubbish, because in populous districts such adulterated drugs destroyed more human lives, and especially of infants, than half-a-dozen plagues.

Acting-Sergeant Downs was then sworn. He said on the 15th instant he called at the defendant's shop in Wharf Street, and asked for two pennyworth of milk of sulphur. He was supplied with the article by defendant's wife, and he told her that it was for the purpose of analysis, and he also asked if she would like to keep a portion of it. She said it did not matter, and he then sealed the packet, and put defendant's name and address upon it. He afterwards took the packet to Captain Arrowsmith, and then conveyed it to the analyst.

Defendant, in explanation, said, 20 years ago he became tenant of the shop, and at that time there was a large quantity of milk of sulphur in stock. He had never bought any since, and he believed he was selling the article pure and unadulterated.

Mr. Aspland said the magistrates were of opinion that defendant was guiltless of any intention to defraud. They thought he sold the article in good faith, but at the same time it ought to be known that this stuff with which the drug was mixed was poison and might produce an injurious effect upon the health of children. It was the duty of every tradesman to know that his goods were the pure article, and he ought either to get a warrant to that effect or have the goods analysed. The magistrates thought it best to impose a small fine in the case, and a nominal fine of 1s. and costs would be inflicted, but if any more such cases were brought before them the fines would be more substantial.

The next case was one in which Jonathan Radcliffe, shopkeeper, Astley Street, was charged with a similar offence. Defendant said he sold milk of sulphur, but he was not aware that he sold an article contrary to milk of sulphur.

Acting-Sergeant Downs said, on the 15th inst. he called at defendant's shop in Astley Street and asked him for three-pennyworth of milk of sulphur. He was served by the defendant, and witness told him he had obtained it for the purpose of analysis, and asked him if he would like to keep a portion of it. He said he did not, and added that he had more of the same sort. Witness sealed up the packet, and it was afterwards sent to the analyst.

Captain Arrowsmith said he had received from the county analyst a certificate showing the result of his analysis of two ounces of precipitate of sulphur sold by the defendant to Downs. The certificate showed that there was 61 per cent. of hydrated sulphate of lime, or elements of plaster of Paris, in the drug.

Defendant said he did not sell the article as precipitate of sulphur.

Captain Arrowsmith replied that it was known throughout the trade as precipitate of sulphur.

The Chairman said the two terms meant the same thing. In point of law the customer asked for precipitate of sulphur, and defendant gave him a poisonous drug.

Defendant called Mr. W. H. Waterhouse, druggist, of Ashton, as a witness, and he said he wished to say a few words in favour of the trade, and in order that justice might be done.

Mr. Aspland: Can you say that this article is milk of sulphur?

Mr. Waterhouse: I know it is milk of sulphur.

Mr. Aspland: How do you know?

Mr. Waterhouse: I have examined it.

Mr. Aspland: Here we have the analysis of an expert, and he says it is precipitate of sulphur greatly adulterated.

Mr. Waterhouse: I can quote the opinion of one of the most eminent chemists in the United Kingdom to prove my assertions. I am prepared to say that the article supplied by defendant to the officer was milk of sulphur, and not precipitate of sulphur.

Mr. Aspland: We cannot entertain your opinion, because you are not an analyst. Have you anything further to say, Mr. Radcliffe?

Defendant: I sold the article as pure for aught I knew. I never altered it, and it is so long since I bought any that I forget where I bought my present stock.

The Chairman: You are selling an article with only 39 per cent. of precipitate of sulphur, and 61 per cent. of a poisonous article. If you had gone to a respectable druggist, you could have got the pure article. You may have poisoned people by selling this stuff.

Captain Arrowsmith: Mr. Radcliffe keeps a druggist's shop, or rather sells a large quantity of drugs, and it is his duty to ascertain that the drugs are good.

Mr. Aspland: You know very well that if you buy drugs

that are not pure you may get protection against the person who sells them, and then you will be safe. If you choose to go and buy cheap drugs which are poisonous you will render yourself liable to all the penalties. As this is the first time, you will only be fined 10s. 6d. and costs, the cost of the analysis, and the police costs. If you come up again you will probably have the full penalty.

* * *

In a letter printed in the *Ashton Reporter*, Mr. Waterhouse gives the real facts of the case in regard to milk of sulphur, quoting especially from Dr. Redwood. Mr. Waterhouse adds:—

"I am 'not an analyst;' I am not, your worships; but I go through the world watching and hearkening, and with Professor Redwood on the one hand, and petty sessions on the other, not to obtrude my own experience, which by this time should count for something, I shall persist to buy, sell, prescribe, and otherwise use the original milk of sulphur, as occasion may require. In the face of such evidence, and it was laid before the Dukinfield Bench, evidence amounting to a demonstration that milk of sulphur and precipitated sulphur ought never to be confounded as identical compounds, I am entitled to ask, Was it fair to entrap an unsuspecting shopkeeper by purchasing milk of sulphur, and having got the exact article asked for, to instruct the analyst to examine it for precipitated sulphur, an article not inquired for, and of the existence of which the seller was totally uninformed? As fairly, I think, might you buy treacle and test it for loaf sugar."

Another letter in the *Ashton Reporter* of December 9, signed by Jonathan Radcliffe, of Dukinfield, one of the defendants in the above trials, makes an extraordinary revelation. He says:—

"Wishing to know what sort of milk of sulphur was sold in Ashton, I have made strict inquiry, and am amazed to learn that the Ashton druggists supply to their customers, many of whom no doubt go from Dukinfield, the identical milk of sulphur that we are punished for selling here, and what astonished and confounded me the more was to be informed, upon proof that cannot be resisted, that at Dr. Newton's shop in Ashton, one of the magistrates by whom the cases were heard, and who at Hydo drew such a fearful picture of the infant mortality caused by the use of this drug, the very same sort of milk of sulphur is retailed as elsewhere. I want to know, are the shopkeepers of Dukinfield to be influenced more by precept and penalty, or by long precedent and professional example? An opinion is fast growing here that our medico-chemical-clerical bench, so far as the Adulteration Act is concerned, is dealing out sharp practice rather than even-handed justice."

COURT OF EXCHEQUER.

(Before Baron Pollock and a Common Jury).—Nov. 21, 1876.

THE SOCIETY OF APOTHECARIES v. WITHERINGTON.

THIS was an action to recover a penalty of 20l. from the defendant, for having acted as an apothecary without a certificate.

Mr. Aretas Young was counsel for the plaintiffs; the defendant appeared in person.

The defendant resided at 410 Wandsworth Road, where he carried on the business of a chemist and druggist, and this action was brought against him for a contravention of the Act 55 Geo. III., cap. 94, which was passed to regulate the practice of apothecaries in England and Wales. He had visited people at their own houses, prescribed for them, and supplied them with medicines for reward. Witnesses were called who proved that the defendant had attended upon and treated them for different complaints, and they produced accounts of his charges.

The defendant, having taken some technical objections to the action, which were overruled, addressed the jury, and asserted that he had only acted as assistant to a properly qualified surgeon, and that these proceedings had been instituted maliciously.

Baron Pollock said it was for the jury to find whether the defendant had transgressed the law. If so, he was liable to the penalty sought to be recovered.

The jury found a verdict for the plaintiffs for one penalty of 20l.

Judgment accordingly.

LONDON BANKRUPTCY COURT.

ARTHUR HILLS, Chemical Manufacturer.

THE debtor, described as of the Cannock Chase Chemical Works, Hammerwich, in the county of Stafford, and of Wepr's Brook Chemical Works, in the county of Flint, chemical manufacturer, filed his petition for liquidation on August 8 last, in the Staffordshire County Court (Walsall), and at the meeting of creditors subsequently held a statement of affairs was submitted, of which the following is an outline:—Creditors unsecured, 7,061*l.* 16*s.* 11*d.*; ditto secured, 1,300*l.*; ditto partly secured, 64,347*l.* 12*s.* 7*d.* (value of security, 12,201*l.*); preferential creditors, 1,271*l.* 18*s.*; liabilities on bills discounted, 1,348*l.* 14*s.* 9*d.*, of which about 168*l.* will rank against the estate. Total unsecured claims, 60,658*l.* 7*s.* 6*d.* Assets—Stock, 1,516*l.*; book debts estimated to realise 663*l.*; cash in hand, 75*l.* 10*s.* 1*d.*; furniture, &c., 650*l.*; and surplus from property held as security, 700*l.* Resolutions to liquidate the estate by arrangement were come to, Mr. W. G. Blackham, accountant, Birmingham, and Mr. Thomas G. Sharpe, accountant, Huddersfield, being appointed trustees. The following were the principal unsecured creditors:—

	£	s.	d.
J. Aldridge, Walsall Wood	29	13	0
E. Breat & Co., Castleford	39	0	0
Bass & Smith, Burton-on-Trent	200	0	0
Bass, Ratcliff & Gretton, Burton-on-Trent	15	7	0
Birmingham Canal Company	51	19	2
J. Brealey, Market Street, Lichfield	13	3	7
G. Bragg, 96 New Street, Birmingham	99	3	2
The Birmingham Corporation	1,029	6	7
Buckley Brick and Tile Company, Buckley	48	15	11
Bostock & Co., New Street, Birmingham	54	18	0
E. & F. Bostock, Union Passage, Birmingham	12	0	0
J. E. Brassey, Foregate Street, Chester	28	2	3
Cannock Chase Collieries Company, Birmingham	154	11	9
W. Clarke, Chapel Arch, Wolverhampton	30	16	6
Crosskey & Penfold, Lichfield	42	18	5
R. B. Cooper, Bow Street, Lichfield	12	11	6
Dunn Brothers, Pall Mall, Manchester	141	10	6
T. Egden, Daw End, Walsall	16	12	0
F. Farrimond & Co., Chester	10	13	3
W. Gent, Bennett's Hill, Birmingham	122	14	5
H. Hurlbutt & Co., Connah's Quay, Flint	27	1	4
F. C. Hills & Co., Deptford	330	19	9
H. Hills & Son, Amlwch, Anglesey	43	19	11
Harris & Pearson, Stourbridge	73	7	10
H. Hills, Deptford	264	17	0
J. Hale, St. Mary Square, Lichfield	134	2	4
J. Jones, Catshill, Brownshills	70	3	7
Johnson, Matthey & Co., Hatton Garden	54	6	4
J. Jackson, New Street, Birmingham	13	5	1
Lloyd & Bridge, Manchester	31	18	7
Lowe & Co., Arabian Mills, Huddersfield	10	4	0
Mowll & Co., Egerton Street, Chester	38	11	11
F. Matthias, Connah's Quay, Flint	10	17	0
Minera Lime Company, Chester	11	1	2
National Provincial Bank, Birmingham	130	16	8
Nesbit, Lansdale & Co., Gracechurch Street	14	12	11
Percival, Vickers & Co., Manchester	142	6	11
Phillipson & Golder, Chester	15	12	9
Patteson, Wigg & Co., Queen Victoria Street	230	0	0
F. Pratt & Co., Walsall	13	17	6
River Dee Company, Chester	22	10	0
J. & S. Roberts, West Bromwich	55	12	0
Roberts, Dale & Co., Hulme, Manchester	495	0	0
Rooke, Spence & Co., Liverpool	1,000	0	0
J. Rogers, Lightbody Street, Liverpool	322	17	10
J. Stiff & Son, Lambeth	11	13	2
G. & H. Strongitharm, Walsall	24	15	10
Sharp, Stubbins & Co., Huddersfield	29	16	7
Tharsis Sulphur and Copper Company, Liverpool	118	11	2
S. Turner & Son, Barlaston, Stoke-on-Trent	69	6	0
J. Trevor, Lichfield	15	0	0
G. & W. Underhill, Wolverhampton	84	10	5
Watkinson & Sons, Buckby, Flint	15	11	4
J. W. Waring & Co., Widnes	12	4	3
Wright Brothers & Co., Goscote, near Walsall	17	19	10
R. Williamson, Wincham, near Norwich	47	6	6
H. Wythes, High Street, Dudley	53	11	4
T. Wyles, Allesley, near Coventry	219	9	8
J. B. Winder, Lawley Street, Birmingham	22	17	9
Wood & Ivery, West Bromwich	29	5	0
A. Waymouth, Lichfield	49	8	4
Yorks & Co., Pelsall, near Walsall	11	19	0

Creditors Holding Security.

F. C. Hills, Deptford	49,803	0	0
Liberator Permanent Benefit Building Society	14,344	0	0
J. Sherwood, Great George Street, Westminster	1,300	0	0

The case came before Chief Judge Bacon on November 20, on the hearing of an appeal presented by the Liberator Building Society, of Budge Row, against an order of the County Court judge, whereby the society was restrained from taking further

proceedings under a distress which had been levied on the debtor's premises under the powers contained in a mortgage executed by the debtor. On the matter being mentioned, Mr. Winslow, Q.C., said there was some prospect of an arrangement being come to, and it was agreed that the appeal should stand over to enable the parties to come to terms.

McCulloch & Perrin, Chemical Merchants, Mincing Lane.

THE bankrupts, Hugh Thomas McCulloch and Henry Perrin, lately trading in co-partnership under the firm of McCulloch & Co., had filed a petition for liquidation, but default being made in payment of the composition accepted by the creditors adjudication took place on August 1, on the petition of Mr. G. Boor, wholesale druggist, Artillery Lane, Bishopsgate Without. An adjourned meeting for public examination was held before Mr. Registrar Hazlitt on the 1st inst. Perrin has absconded, but McCulloch rendered a statement of affairs, of which the following is an outline: Creditors unsecured, 9,132*l.* 13*s.* 2*d.*; ditto fully secured, 940*l.*; ditto partly secured, 9*l.* 1*s.* 5*d.* (value of security, 1*l.* 10*s.*); and liabilities on bills discounted, 1,389*l.* 9*s.* 11*d.*, of which 1,009*l.* 13*s.* 3*d.* is expected to rank against the estate: total unsecured claims, 10,187*l.* 7*s.* 10*d.* Assets—stock, 305*l.*; book debts, 1,203*l.* 2*s.* 3*d.*, estimated to produce, 158*l.* 14*s.*; cash, 100*l.*; bills of exchange, 80*l.*; and surplus from securities, 30*l.* The separate debts of McCulloch were returned at 277*l.* 0*s.* 5*d.*, and no assets. The following unsecured creditors are scheduled:—

	£	s.	d.
S. Allen & Son, Cowper Street, City Road	25	14	5
W. C. Bacon, 14 Mincing Lane	194	13	2
Banks & Co., Newport, Mon.	194	8	8
Barber & Co., Brewer's Quay, E.C.	16	0	2
Berger, Spence & Co., Lombard Street	1,667	8	11
M. H. Berkeley, 9 Gracechurch Street	19	2	0
E. Boughton & Co., Pontardulais	39	6	0
G. Boor & Co., Artillery Lane	279	18	8
T. Budding, Pontywestel, Newport	34	14	0
B. B. Byass & Co., Tailbach, Glamorgan	60	9	4
The Consolidated Bank	126	9	0
Chester & Holland, 34 Eastcheap	900	0	0
G. Cook, Chemical Works, Millwall	76	13	0
J. Draper, 4 Little Tower Street	11	17	1
Dunn Brothers, Pall Mall, Manchester	211	7	2
W. France, Stanton's Wharf, Tooley Street	13	17	5
The Great Western Railway Company	150	0	0
G. Hannett, 14 Mincing Lane	422	9	9
J. Hartshorn, 169 Campbell Road, Bow	26	12	11
Jenkins, Eagle & Co., Camberwell	11	19	1
Jessop & Humble, Mincing Lane	1,386	5	5
Liedemann & Co., Newcastle	21	2	0
Major & Field, Red Lion Wharf, Thames Street	20	19	0
Mansel Tin-plate Company, Tailbach	19	11	4
D. Mais & Co., Bristol Ferry, Glamorgan	56	0	9
The National Bank	70	10	4
W. Northern, Vauxhall Walk	86	10	7
W. H. Nott & Co., Liverpool	17	12	9
P. Parmer, 59 Mark Lane	1,050	13	0
Pinchin & Johnson, Cable Street, E.	44	12	0
H. Pond & Son, 100 Fenchurch Street	27	14	6
W. G. Scott & Co., Lancaster Place, St. John's Wood	369	0	0
Scott & Co., Marshgate Lane, Stratford	59	9	6
W. A. Scott & Co., Queen Street, Newcastle	204	14	1
Richard Thomas & Co., Gracechurch Street	11	14	0
Tingle & Jacobs, Billiter Street	36	0	0
Van Dalkin & Co., Suffolk Lane	732	2	8
J. B. Wallace & Co., Tower Buildings, Liverpool	16	2	11
Webb, Hunt & Warter, East Smithfield	13	11	10
White, Palmer & Gibbons, Mincing Lane	195	10	0
Wilton Chemical Company, Liverpool	142	6	6

Creditors Holding Security.

	£	s.	d.
Caudery & Co., 151 Fenchurch Street	100	0	0
Charles & Fox, 3 Mincing Lane	840	0	0

Mr. Rae, who appeared for the trustee and committee of inspection, said that Perrin had not surrendered to his bankruptcy, and it was believed that he had absconded to Canada. McCulloch had filed the statutory accounts, and there was no objection to his passing his public examination. His Honour accordingly allowed McCulloch to pass, the non-appearance of Perrin being recorded.

HENRY TURNER, Homœopathic Chemist and Publisher,
77 Fleet Street.

THIS case, which has already been noticed in THE CHEMIST AND DRUGGIST, came before the Court on November 16, on the hearing of a motion made on behalf of the trustee of the estate for a declaration that certain deeds dated respectively September 24,

1875, and May 21, 1876, executed by the debtor in favour of Mr. Charles Attwater, of 37 Essex Street, Strand, for the purpose of securing two several sums of 1,000*l.* and 500*l.* advanced by Mr. Attwater, were void against the trustee in so far as such deeds assigned to Mr. Attwater certain engines, fixed and movable machinery, plant, trade fixtures, stock, &c. Mr. Winslow, Q.C., and Mr. Winch appeared for the trustee in support of the motion; Mr. Roxburgh, Q.C., and Mr. Doria were counsel for Mr. Attwater. After hearing the arguments and evidence, Mr. Registrar Pypys took time to consider his decision, and on November 21 delivered judgment. His Honour, after stating the nature of the motion, said it was admitted on both sides that the deeds executed by the debtor were bills of sale, and as such required registration. On August 24 possession was taken, and on August 29 the debtor filed his petition for liquidation. The Court had to consider in the first place whether sufficient and complete possession had been taken by Mr. Attwater, and in the second whether any act of bankruptcy had been committed by the debtor prior to such taking of possession. The evidence satisfied him that the possession taken was sufficient, and he did not think that it was incumbent upon Mr. Attwater to remove from the premises all outward signs of the debtor's occupation of them. But at the eleventh hour a new case was set up, the debtor and two of his *employés* alleging that before possession was taken under the bill of sale he (the debtor) had committed an act of bankruptcy by denying himself to his creditors. The affidavit containing that allegation was uncontradicted, and although a case of *Wright v. Arnold* had been cited on behalf of the bill of sale holder it did not apply. In that case the bill of sale was registered, but here it was not, thus placing the matter on a different basis. It was not the Bankruptcy Act, 1869, which rendered the deed invalid, but the Bills of Sale Act, 1854, and Mr. Attwater having failed to register his securities, and there having been a denial of the debtor to his creditors before possession was taken, His Honour said he should hold that the trustee was entitled to an order in the terms of his notice of motion. Mr. Doria said that as the case was one of peculiar hardship upon Mr. Attwater he should ask for his costs out of the estate.

The Registrar: All I can do is to make no order as to costs.

J. H. Bowen, Chemist and Druggist, Prince of Wales Road,
Kentish Town, and Wigmore Street.

The debtor has petitioned for the liquidation of his affairs, returning his liabilities at about 2,500*l.*, the following being scheduled as creditors in the preliminary list:—

	£	s.	d.
Adams & Francis, 59 Fleet Street	17	0	0
Burgoyne, Burdidges & Co., Coleman Street	21	0	0
Mrs. Bowen, Ferry Side, South Wales	709	0	0
W. C. Clement, 170 Strand	15	0	0
Chatto & Windus, 71 Piccadilly	9	0	0
Chappell & Co., Mount Street, Whitechapel	12	0	0
J. A. Cooke, Whitefriars Gate, Hull	9	15	0
Cassell & Co., Belle Sauvage Yard, E.C.	21	0	0
Duncan & Sons, Cardiff	9	0	0
Davey & Son, Leather Sellers' Buildings, E.C.	12	0	0
Deane & Sons, Fleet Street	9	0	0
H. Davies & Co., Fishergate, Preston	15	0	0
— Doirier, 91 Wigmore Street, W.	11	4	0
S. Freeman & Sons, Nottingham	19	10	9
H. C. Fenn, 19 Tavistock Street, W.C.	12	18	0
Gunn & Cameron, Union Street, Glasgow	17	17	6
Grant & Co., Turnmill Street, E.C.	15	15	0
J. Griffiths, Glamour House, Ferry Side	35	0	0
J. Gallagher, <i>Irish Times</i> , Dublin	15	0	0
E. Harrison, 135 Salisbury Square	20	0	0
A. Heywood & Sons, Manchester	10	10	0
W. Hunt, 42 Whitefriars Gate, Hull	9	0	0
J. Heywood, Deansgate, Manchester	12	0	0
Holkinson, Prestons, & King, Leadenhall Street	45	10	4
Hodder & Stoughton, Paternoster Row	10	10	0
— Hurry, Paternoster Row	9	0	0
<i>Hand and Heart</i> , 75 Shoe Lane	30	10	0
Havana Cigar Company, Hatton Garden	15	0	0
Halbrook & Sons, Portsmouth	10	10	0
J. Hutton, 332 Strand	22	0	0
Leng & Co., Bank Street, Dundee	24	0	0
P. Lindley, 35 Essex Street, Strand	12	5	0
Letts & Co., Royal Exchange	30	0	0
W. L. Madge, 110 Strand	13	3	0
G. Maddick, jun., 2 Southampton Street, W.C.	9	5	0
Millard & Son, 44 Barbican	9	6	3
Montague, Chatterton & Co., Acon Street, W.C.	30	12	0
Outram & Co., Buchanan Street, Glasgow	12	0	0
D. Peters, 21 Gloucester Road, Kensington	180	0	0
P. Ranken, 5 Drury Court, Strand	8	8	0
C. & G. Somerton, 35 Broad Street, Bristol	15	0	0

	£	s.	d.
E. Stock, 31 Paternoster Row	22	0	0
J. Smith, 161 Fleet Street	13	13	0
P. Soman, Castle Street, Norwich	9	10	0
E. Seale, 8 New Bridge Street	16	0	0
Strahan & Co., Paternoster Row	31	0	0
Singer & Sons, 150 Oxford Street	26	0	0
H. Silverlock, 92 Blackfriars Road	14	1	0
Tillotson & Sons, Bolton	22	16	0
F. Wick, 67 Hope Street, Glasgow	15	0	0
Willing & Co., St. Martin's Lane	75	0	0

LIVERPOOL BANKRUPTCY COURT.

(Before Mr. Perronet Thompson, Judge.)

IN RE TAYLOR, BLOOD & Co.

THIS firm, comprising Taylor & Blood only, carried on business as wholesale druggists, in Concert Street. They failed in November last year, with an indebtedness of 3,652*l.*, against assets of 1,500*l.* Amongst the claims against their estate were those of the relatives of both the debtors, amounting to 2,000*l.* A dividend of 4*s.* in the pound was paid to the trade creditors, and a sum reserved for the other claims. The case came before the Liverpool Court on November 19. The question now raised, at the instance of the trade creditors, was as to the right of the relatives to rank as creditors on the joint estate.

Mr. Bolland, the trustee, admitted them in the first instance, but on the suggestion of counsel, whose opinion was taken, the judgment of the court was now sought.

Dr. Commins (instructed by Mr. Henry Hindle) appeared on behalf of the trustee; and Mr. Lewis Williams (instructed by Mr. Copeman) for the claimants.

The circumstances, as disclosed in the affidavit of the trustee, were these:—

Early in 1871 the debtors commenced business as wholesale druggists, and on May 11 in the same year executed a deed of partnership, to relate back to January 1, 1871, whereby the partners should be entitled to the joint stock property and effects, gains, and profits in the proportion of two-thirds to Taylor and one-third to Blood, and that all losses should be borne by them in proportion to their capital, which was to consist of 1,000*l.* from the relatives of Taylor, and 500*l.* from those of Blood. The cash book of the firm showed that the relatives had advanced those sums, and that interest had been paid thereon out of the partnership assets, and the simple question was whether there was sufficient evidence to justify the court in inferring that there had been an adoption by the firm of the claims of the relatives as partnership debts.

Upon this point evidence was adduced; and the learned Judge at its conclusion said that although at first blush his impression was that the claims of the relatives ought to rank on the separate estate, yet the *vivâ voce* evidence which he had heard satisfied him that the advances made by them were intended to be to the new firm, and had been so regarded by that firm; and he should, therefore, allow them to rank against the joint estate.

Mr. Williams applied for costs, but His Honour, after hearing Dr. Commins, refused the application, as he considered the claimants, by their own acts, had left themselves open to the action taken by the trustee.

EARLY CLOSING AMONGST CHEMISTS AND DRUGGISTS.

ON Friday evening, December 1, at 9 P.M., a meeting of the chemists and druggists of Notting Hill and Bayswater, convened by the Early Closing Association, was held in the Mall Hall, High Street, Notting Hill. Mr. Henry Long occupied the chair, and Messrs. A. P. Baker, C. H. Grosvenor, S. Drury, C. Butler, R. A. Johnson, J. R. Faulkner, &c., were present. Messrs. E. Kennedy and F. A. Allen, Secretaries of the Early Closing Association, attended and spoke. A very general feeling in favour of the adoption of earlier hours of closing was expressed, and ultimately the following resolutions were adopted:—

Proposed by Mr. A. P. BAKER, seconded by Mr. C. H. GROSVENOR:—

That, in the opinion of this meeting the business hours observed by the chemists and druggists in this neighbourhood are unduly prolonged, and might be curtailed without inconvenience to the public or prejudice to trade, whilst conferring great benefits upon both employers and employed.

Proposed by Mr. S. DRURY, seconded by Mr. C. BUTLER:—

That the chemists and druggists present, being convinced of the benefits to be derived from the adoption of earlier hours of closing, hereby form themselves into a provisional committee (with power to add to their number) for carrying out the object of the meeting.

Proposed by Mr. R. A. JOHNSON, seconded by Mr. J. R. FAULKNER:—

That the foregoing resolutions be forwarded to the press, and to the various chemists and druggists in the locality, with a view to securing their co-operation in the movement.

The proceedings terminated with a vote of thanks to the chairman. A second meeting was held on Wednesday, December 13, at the same time and place.

Trade Notes.

MR. P. H. MORGAN, of Taunton, has disposed of his business to Mr. E. W. Short, of Beaminstor.

WE HAVE RECEIVED from Messrs. Howard Hall & Co. a tastefully-designed card calendar for 1877, recommending their Lady's Bouquet Cachou.

MESSRS. EVANS, LESCHER & EVANS announce by circular that Mr. Wm. Gibson is no longer in their employment, and is not empowered to represent them in any way.

THE SPANISH WASH prepared by Mr. Muddiman, of Aylesbury and Leighton Buzzard, appears to be a thoroughly good stimulating and cleansing hair lotion. It is sold in London by Messrs. Low, Son & Haydon.

A TESTIMONIAL from Mr. A. W. Smith, of Rye, in our advertisement columns, confirms the opinion we expressed recently concerning the value of the new pill machine invented by Mr. Cocking, of Sittingbourne.

MR. GERRARD having called attention to the frequent occurrence of lead in glycerine, we observe that Messrs. Wright, Layman & Umney guarantee their glycerine to be free from that or any other metallic impurity.

A GERMAN pharmacist at Wiesbaden advertises in our columns for an apprentice or improver. We should say this is a valuable opportunity for someone to acquire a sound acquaintance with his business and with the German language at the same time.

MR. THURSTON, of Long Melford, Suffolk, now publishes in our advertisement section a complete and useful wholesale and retail price list of his horse and cattle medicines. These are becoming widely known and are highly spoken of. They are attractively put up and yield a good profit. Many druggists might take them into stock advantageously.

WE note the establishment of Messrs. Collis & Son as auctioneers, valuers, and transfer agents at Choadle, Stoke-on-Trent. Mr. Collis, senr., must be known to many of our readers, as he is to ourselves, as for the past 30 or 40 years he has been calling on chemists all over England. Such an experience and his own thorough acquaintance with the drug trade eminently fit him for the duties he now offers to undertake.

It will be observed in our advertisement columns that the stock of Messrs. Tomlinson, Nicholson & Morris is to be sold by auction at Manchester on the 19th inst. and following days.

MR. J. N. DAVIDSON, of Elgin, has removed to Dundee, where he has opened a shop at 128A Nethergate. His new establishment has been handsomely fitted by George Treble & Son, of London, in a style which has won unqualified approval. On leaving Elgin Mr. Davidson was presented with a very handsome solid silver kettle, with tea and coffee service to match, by a number of his fellow townsmen, including the members of the medical profession and many of the most influential gentlemen in the town.

A "STRENGTHENING FOOD," manufactured by Mr. W. Butcher, of Blackheath, is worthy of notice. It is prepared with a view to provide a complete food suitable for infants, invalids, and grown-up persons. A full-grown healthy man can be sustained, says the proprietor, on this food in full vigour for sixpence a day. A shilling packet contains 2 lbs. The following analysis has been made by Messrs. Midwinter & Webster:—

Gluken	..	..	..	..	..	..	..	21.2
Cellulose	..	..	..	..	..	..	..	3.2
Starch	..	..	..	..	..	..	..	56.1
Fats	..	..	..	..	..	..	..	1.61
Sugar and gum	..	..	..	..	..	..	..	5.57
Saline matter, chiefly phosphates	..	..	..	..	..	..	..	2.4
Moisture	..	..	..	..	..	..	..	9.92
Total	..	..	..	..	..	..	..	100.00

BELOW is a copy of the judge's report to the Centennial Commission, which, having accepted the same, awards a medal to Mr. H. G. Hotchkiss, Lyons, State of New York. We give it as a specimen of the style in which the Centennial certificates are drawn up:—

GROUP 3. CATALOGUE.

PRODUCT—OIL OF PEPPERMINT AND OTHER ESSENTIAL OILS.

EXHIBITOR, H. G. HOTCHKISS, LYONS, NEW YORK.

For the beauty and purity of their products and for the manner in which they have built up the agriculture and distillation of peppermint, and for the frequent recognition of the good quality of their products by other expositions in foreign countries.

J. LAWRENCE SMITH.
Signature of the Judge.

APPROVAL OF GROUP JUDGES.

Dr. Rudolph von Wagner	M. J. F. Kuhlmann
Mr. P. De Wilde	Prof. F. A. Genth
Mr. E. Paterno	Prof. J. W. Mallet
Dr. William Odling	

This is undoubtedly a well-deserved award. Mr. Hotchkiss's oils have won a long series of triumphs abroad, and it would have been strange indeed if his own country had failed to add its recognition of their excellence.

LELIEVRE'S ICELAND MOSS INSTANTANEOUS POULTICES.—By this invention, introduced commercially by Messrs. Rigollet & Co., of Paris and London, the old system of poulticing is, we believe, about doomed. The process adopted and patented by Dr. Lelievre appears to be to introduce the mucilage of the *Fucus crispus* between two sheets of linen. A sheet about the thickness of parchment is thus formed, which may be cut to any size or shape desired. To use it as a poultice all that is necessary is to dip it for a minute or two in hot water, when it softens and swells, and may then be applied and covered with guttapercha tissue. With great convenience any medicament may be added to the poultice, as, for example, arnica, goulard, carbolic acid, morphia, muriate of iron, &c. There are often cases when the difficulty of applying an old-fashioned poultice is insurmountable. In such instances Lelievre's cataplasm will prove most serviceable. We have lately read a note by Dr. Brochard, a popular physician in Paris, who recommends these poultices very highly for use with infants. He recommends all mothers to keep by them as a small "maternal pharmacy" some syrup of ipecac., camphorated oil, Rigollet's mustard leaves, and Lelievre's instantaneous poultices. He especially recommends these poultices on account of the ease with which they can be applied and kept in place, and also in the advantage they possess of not giving out the disagreeable odour which, as he considers, is connected with linseed meal. Guttapercha tissue is supplied in the envelope with the poultice.



Mr. WM. GRAHAM CARR, chemist and druggist, of Berwick-on-Tweed, celebrated his golden wedding—the 50th anniversary of his marriage day—on November 26, when his family gathered from various parts of the country to do him honour.

THE authorities of King's College Hospital have inaugurated the system of sending out liniments, lotions, &c., in specially distinctive bottles. Out-patients are compelled to bring these, or, if not, to buy them at the dispensary, where they are supplied at cost price.

POISONED HAMS.—Attention has been called in France to a source of poisoning against which it may be well to be on guard. It seems that many hams have been imported covered with a sort of cloth saturated in a yellow substance. This on examination has proved to be chromate of lead. Lovers of a rasher of ham should therefore be warned lest their favourite breakfast should prove the purveyor of lead. If any ham be found with a yellow cover it should be suspected.

NARROW ESCAPE FROM FIRE.—Early on the morning of November 22, Mr. Kendal Cook, chemist and druggist, of Argyle Street, Birkenhead, was awakened by a strong suffocating smell, and on proceeding downstairs he found that a can of phosphorus had by some means taken fire in the shop, and had ignited other articles. The can was thrown into the street, and the flames quenched before any but very slight damage could result.

AN ACT to restrict the use and sale of poisons in the province of New South Wales came into force on September 1. In accordance with the 9th section, the Governor, with the advice of the Executive Council, has for the purposes of the Act appointed a Board of Pharmacy, consisting of the President of the New South Wales Medical Board, the medical adviser to the Government, and the Council of the Pharmaceutical Society of New South Wales.—*Australian and New Zealand Gazette*.

THE wife of a New York merchant was startled and alarmed the other day by receiving from her husband a telegram which ran thus:—"Come down to office at once, and bring one hundred and fifty doctors' pills." Hastily gathering together all the physic she could lay her hands on, she took a cab and hastened to what she feared was to prove a scene of woe. She was relieved, though her husband was not, when it turned out that what he wanted was 150 dollars in bills.

A DRUGGIST AND GROCER of Belfast named George McCullough committed suicide on November 15. A criminal trial was hanging over him, in which he was charged with having fraudulently altered a receipt given by a wholesale firm. A warrant was issued against him, and hearing of this he seems to have taken a quantity of strychnine which he had in the shop. The jury returned the following curious worded verdict: "That the said George McCullough, on November 13, 1876, in his own house in John Street, and in the borough of Belfast, came to his death from the effects of having committed suicide by partaking of a quantity of strychnine."

REMARKABLE LONGEVITY.—Dr. Ornstein, of Athens, reports in *Virchow's Archiv* (says the *Boston Journal of Chemistry*) the death in Smyrna of George Stravarides, at the age of 132 years. Although this Methuselah had always lived an irregular life, and had consumed an average of more than 100 drachms of brandy daily, he retained the full possession of all his five senses—as also a complete set of teeth—up to the moment of his death. He also continued to the last to attend to the duties of his avocation—a baker. This man was born in 1743, in the reign of Mohammed I., and lived during the reigns of nine Sultans.

ON June 30, says the *Australian Medical Journal*, Mr. Sydney Gibbons delivered a lecture before the Australian Health Society, at Melbourne, on "Kissing and its Consequences," his object being to show that many forms of disease, especially

those presumed to depend upon fungoid bodies for their reproduction, are communicated by this means. We urge the attention of the promoters of the new city of Hygeiopolis to this item. All their elaborate drainage will be of no avail if a crowd of amorous lunatics are to be permitted to continue the osculatory inoculations emanating from their fungoid carcases.

A TRAVELLING chiropodist, named Joseph Wolff, has been charged at Cambridge with attempting to obtain money by false pretences from the Hon. J. W. Plunkett, undergraduate at Trinity College. The accused, after manipulating the honourable foot for some space of time, left strewn on the hearthrug about 50 small objects resembling corns. Mr. Plunkett denied his relationship to these interesting products, and medical evidence given at the trial was to the effect that these were not corns, and that no corns had been extracted from the foot. The accused was committed for trial.

THE LIEBIG MONUMENT.—The sum of 140,000 marks having been collected for the Liebig memorial, the committee has decided to close the subscription list. A discussion about the site of the projected monument has arisen between the rival committees of Giessen and Munich, the former claiming the statue on the ground that from their university Liebig's fame first issued to the world; the latter because their city was latterly the scene of his labours. It has been resolved that both towns shall have a similar memorial, and that these shall be cast in bronze, the sum collected sufficing to cover the expense of both.

M. MENIER IN THE FRENCH CHAMBER OF DEPUTIES.—M. Menier, the French chocolate maker and wholesale druggist of aforetime, whose portrait and history we published last month, was speaking a few nights back in the French Parliament on his favourite subject of taxation, and had just made a remark contrasting circulating capital with fixed capital, when he was rudely interrupted by the Bonapartist editor, Paul de Cassagnac, shouting, "Chocolate, for example." Menier, by no means disconcerted, replied that M. de Cassagnac might well know something of this subject, for he (Menier) had supplied Cassagnac's uncle with a large quantity, for which he had never been paid. Now, if the nephew would pay the outstanding account there would be an illustration of the transformation of circulating capital into fixed capital. Cassagnac, offended, appealed to the president, but without winning much sympathy. At this moment a stranger in the gallery opportunely shouted "Vive Napoleon IV.," and the attention of the house was diverted from the personal squabble which had arisen.

HOW TO CLEAN BRASS SCALES.—A correspondent of the *Druggists' Circular* writes as follows:—"I do not know of anything that has been of more annoyance than keeping the scales, &c., in shining order. However, I think I have at last hit upon a method which yields excellent results, and which, I believe, will prove satisfactory. The articles will retain their lustre unimpaired for a long time, particularly when excluded from flies and dust. In the first place, if the brass is very much tarnished, use a little oxalic acid solution; if spots are imbedded, rub them out with a little powdered pumice stone, then wash off with water, and dry (the acid and pumice are to be used only when necessary). Then have a paste prepared of powdered rotten stone and sweet oil, and with a smooth cork rub it thoroughly over the surface of the brass till it assumes a greenish-black colour, after which rub off every particle of oil with an old rag. Have some lampblack in a suitable box, and if for the scale pans, put on a little of the lampblack; if for the weights, &c., dip a smooth cork into it, and rub it over till of a satisfactory polish (the more the better). The result will be all that can be desired, and will repay the extra labour expended upon it."

DR. FERRIER'S SNUFF AND THE PHARMACY ACT.—Last summer, writes the correspondent of a country paper, Dr. Ferrier, of King's College Hospital, made known to suffering humanity a specific for cold in the head. I booked it on the spot, in anticipation of the ensuing November. That pleasant month is here; and with it came the usual symptoms. Off I sent Dr. Ferrier's prescription to Apothecaries' Hall, but it came back with a message that it must be written by a medical man. Thinking this might be a peculiarity of the Hall, I sent it to a chemist's, when back came my messenger again, saying that the mixture could not be made up. It was "against the Act of Parliament." Of course there was an end of all argument, as I do not possess

the art of driving a coach-and-six through a legislative enactment. Consequently, I sneeze as before. It is rather a tantalising position to have an infallible remedy in the shape of a prescription and not be able to get it made up.—Of course the difficulty arose from the presence of two grains of morphia in the prescription. An ingenious chemist, however, could easily get over the difficulty by labelling the compound "Dr. Ferrier's Snuff for Colds in the Head," and attaching also a patent medicine stamp of the proper value.

THE TREATMENT OF TAPEWORM.—A return of the quantity of several drugs in most general use for the treatment of tapeworm in the public hospitals of Paris during the last ten years has been made by the Director of the Central Pharmacy. A comparison of the relative quantities consumed during the first and second halves of the decennium supplies an interesting indication of the professional verdict as to their relative value. The average quantity of kousso consumed annually was more than twice as great during the four years since 1870 as during the six years before. The amount of pumpkin-seeds employed has not quite doubled; that of pomegranate bark has remained almost stationary; and that of the male fern has more than doubled. Kousso and male fern thus appear to be the remedies on which Parisian experience shows most reliance can be placed. M. Collin, however, in a recent paper on tænia in the French army, advocates very strongly the use of pomegranate bark. He asserts that when the precaution was taken never to administer a purgative before the vermifuge, the head of the worm was expelled, in three cases out of four, by a single dose. A purgative given before simply tears away the segments, leaving the head attached, and the head is then undisturbed by the special medicine.—*N. Y. Journal of Materia Medica.*

COMPRESSED AIR IN FILTRATION OF LIQUIDS.—In arranging an apparatus lately, in which compressed and rarefied air was employed for lung and heart disease, Professor Lenke conceived the idea of using compressed air in filtration of liquids. He experimented as follows: Two funnels of sheet copper were joined by their wide ends; in the lower was inserted a glass and a platinum funnel, with filter paper as usual. The narrow end of the lower copper funnel passed through the caoutchouc stopper of a glass vessel, in which stopper was also inserted a bent glass tube. An air-compressing apparatus was connected by caoutchouc tubing to the top of the upper funnel. By compressing the air on the water surface, a considerable acceleration of the filtration is obtained. The effect is nearly similar when the upper funnel is open to the air, and a rarefied space is connected with a bent glass tube. By combining the two processes (compression and rarefaction) a marked increase of speed is perceptible in the filtration.—*Boston Journal of Chemistry.*—It does not seem impossible for some of our apparatus makers to take advantage of this suggestion. Without all the arrangement described above, could they not produce a receiving bottle the air of which could be rarefied in a simple manner, thus increasing the rapidity of filtration?

A CURE FOR BALDNESS.—Persons afflicted with baldness will be glad to hear that a luxuriant growth of hair may be produced by a very simple process described by Consul Stevens in his commercial report on Nicolaef for the past year, which has just been issued. In the summer of 1875 Consul Stevens's attention was drawn to several cases of baldness among bullocks, cows, and oxen, and the loss of manes and tails among horses. A former servant of the consul's, prematurely bald, whose duty it was to trim lamps, had a habit of wiping his petroleum-besmeared hands in the scanty locks which remained to him; and after three months of lamp-trimming experience, his dirty habit procured for him a much finer head of glossy black hair than he ever possessed before in his recollection. Struck by this remarkable occurrence, Consul Stevens tried the remedy on two retriever spaniels that had become suddenly bald, with wonderful success. His experience, therefore, induced him to suggest it to the owner of several black cattle and horses affected as above stated, and, while it stayed the spread of the disease among animals in the same sheds and stables, it effected a quick and radical cure on the animals attacked. The petroleum should be of the most refined American quality, rubbed in vigorously and quickly with the palm of the hand, and applied at intervals of three days, six or seven times in all, except in the case of horses' tails and manes, when more applications may be requisite. The news will create a profound sensation in hairdressing circles, particularly among wig and chignon makers.—*Pall Mall Gazette.*

PETROLIANA.—The magnitude of the "coal oil" business at the American ports for foreign consumption, leaving out of the question the enormous home demand in the States, excites our ever increasing astonishment. A late commercial report affords us some statistics, which we summarise as briefly as possible. The number of vessels taking on board petroleum (principally the refined article) in a single week in the port of New York was 72, the aggregate shipments being more than a quarter of a million of barrels, and 160,000 cases; at Philadelphia during the same period 34 vessels were loading with over 150,000 barrels, and at Baltimore 11 vessels with 60,000 barrels. These 117 ships were destined to sail to almost every leading port in the world. Such statistics exhibit clearly the general introduction of this cheap illuminating material throughout the world, and its importance as an article of export to American commerce. California, with characteristic push, is coming to the front as a petroleum-producing country. In the southern part of the State, in what is called the San Fernando district, there have lately been worked flowing wells, yielding as much as 40 barrels per day, and the refined oil therefrom is now in successful use in San Francisco, the illuminating qualities being found superior to the best Pennsylvania product, containing 60 per cent. as against 33 per cent. in the latter. The Ventura oil regions are situated about 30 miles from Los Angeles, and the depth of the principal flowing well is only 165 feet, while from 500 to 600 feet, it is calculated, will reach the oil belt: in Pennsylvania the wells are obliged to be bored to a depth of from 600 to 1,400 feet. The San Fernando district is said to be covered with numerous flowing springs all along the oil belt, bubbling up out of the shale, and showing a large deposit of oil. The locality is about 600 feet above the level of the sea, and the oil territory is believed to be about 50 miles square.

LABELS ON ADMIXTURES.

THE following appears in the circular issued by the National Chamber of Trade for November:—

A very remarkable case affecting the interpretation of the 8th section of the Sale of Food and Drugs Act having been heard before the Southampton Bench of Justices on May 26 last, resulting in the conviction of the defendant, the Committee of the Chamber addressed a communication to the Local Government Board with reference to what appeared to them a most extraordinary decision, seeing that the packet of cocoa bore a legibly printed label and the words "*This admixture contains no injurious ingredients.*" The reply of the Board, which is published at length, is not less perplexing; but as an authoritative sanction is given to the use of the words, which will be found below, the Committee suggest that as the opportunities arise, all labels upon goods requiring a declaration should bear the form of words suggested by the Local Government Board.

(COPY OF REPLY FROM THE GOVERNMENT.)

No. 380,236.
1876.

Local Government Board, Whitehall, S.W.
June 19, 1876.

SIR,—I am directed by the Local Government Board to acknowledge the receipt of your letter of the 8th instant, in which, at the request of the National Chamber of Trade, you call the Board's attention to a decision recently given by a bench of magistrates under the Sale of Food and Drugs Act, 1875.

The Board desire me to state that they have no authority to review the decision of the magistrates to which you refer, nor can any opinion of theirs settle the law in the case. This can only be done by a decision of the High Court of Justice.

The Board has no information as to the grounds on which the decision of the magistrates was based, but they think that the label, of which you have forwarded a copy, might be framed in more distinct terms.

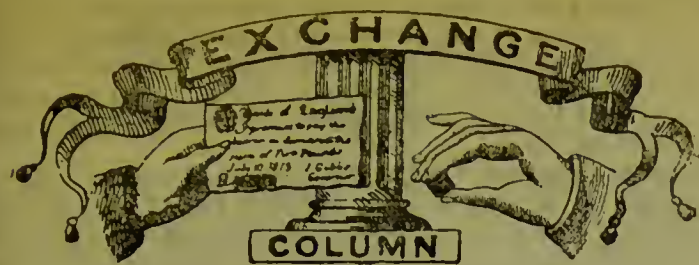
The Statute 38 & 39 Vic., cap. 63, sec. 8, requires that the vendor of any compound article of food shall supply to the person receiving it a notice "by a label distinctly and legibly written or printed on, or with the article, to the effect that the same is mixed."

In this particular case, for example, such words as the following might be used on the label: "This is an admixture, but contains no ingredient injurious to health."

I am, Sir, your obedient servant.

(Signed) DANBY C. FRY, Assistant Secretary.

To F. Morrison, Esq., Secretary of the National Chamber of Trade, 446 Strand, W.C.



TERMS.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the Publisher of THE CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to the "Publisher of THE CHEMIST AND DRUGGIST, Colonial Buildings, Cannon Street, London, E.C.," the envelope to be endorsed also with the number. The publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

FOR DISPOSAL.

Herbarium of dried plants, 4s. Tully, Tunbridge Wells.
Fownes' "Chemistry," 6s. Hebron, Sindall, Knaresboro'.
Twenty-five gross Horner's patent nozzles, new, at 14s. 32/272.
A few of Fox's dental keys. For particulars apply to Mr. Maggs, Yeovil.
About 18 doz. sherry, in litres, No. 8, 20s., bottles and casks included. 9/276.
A quantity of fine hepatic aloes, 1s. 6d. per lb., or offers. Ruston, Chemist, Exeter.
The Chemist and Druggist for 1874-5-6. What offers? Butler, Chemist, Tunbridge Wells.
Two-gallon bell-metal mortar, sound, weighs 160 lbs., price 5l. 10s., great bargain. 17/271.
Tincture press, root cutter, and evaporating dishes, cheap. Marlow, 61 Hatton Garden, London, E.C.
Half-gross 1s. condition food; exchange for good case about 3 by 1 by 1 feet, or for cash. 13/274.
Eighty-four 6d. packets Simpson's cattle spice, wrappers soiled, price 1l. Josephus, Post Office, Alfreton.
Pharmaceutical Journal, unbound, 1875 and 1876. What offers? Vertue, 2 Pembury Villas, New Wimbledon.
About four reams extra superfine black-bordered note-paper, cheap; sample for stamp. Goulden, Uckfield.
One hundred casks petroleum (Royal Daylight), in any quantities, 2s. 1d. per gallon. Ruston, Chemist, Exeter.
10s.-tin oil-cistern, holds about 20 gallons, with tap, complete and perfect. Walter Stead, Westgate, Heckmondwike.
Morph. hydrochlor., 10s. oz.; pulv. marant. Natal opt., 10½d. lb.; balsam sulphur, 5d.; balsam tolu, 12s. 6d. Padwick, Red Hill.
A valuable recipe for liquid dentifrice, contains no soap, lathers freely, 3s.; also one for inseparable lime juice and glycerine, 2s. 15/275.
First-class double-barrel breechloading gun; 12 gauge, Damascus barrels, equal to new, price 5l. 10s. Gee, 331 Lodge Road, Birmingham.
Portable vulcaniser (2-flask), with thermometer (Lemales), in good condition and perfect, cash 37s. 6d. Potts, Dentist, Seaham, Durham.
Exchange for surplus stock of any kind; counter scales, mahogany stand and drawer, Maw's pattern, figure 1, nearly new. 28/273.
Fownes' "Chemistry," 7s. 6d.; Royle's "Materia Medica," 7s. 6d.; Macadam's "Practical Chemistry," 1s. 6d. H., Gordon House, Horsham, Sussex.
1,000 gross of daffy, pop, and barrel corks, at 3d. gross; stomach pump, new; tooth forceps, as Maw's No. 8, new; Cork, P.O., Middleton, Manchester.
Double-barrelled breechloading gun, 12 bore, central fire, side lever, snap action, fine twist barrels. Parkes, London. 4l. 10s. Medicus, 55 Grent King Street, Birmingham.
An organ accordion in walnut case, 2½ octaves, three stops, on ebony stand, with foot blower, cost 6l. 6s., would exchange for a good musical box. Hutchinson, 146 Duke Street, Leith.
The Pharmaceutical Journal, 10 volumes, from 1853 to 1862, handsomely bound, half calf, cloth sides, lettered and gilt, quite new; price 5l. Richard Parkin, 63 Cobourg Street, Leeds.

About 14 doz. Henderson's cut-glass stoppered German bottles at low price, from 10 oz. to 40 oz.; two 3-gall. carboys, cut stoppers, and a lot of shop rounds. F. W., 147 Cannon Street, E.C.

18 4-lb. blue ointment jars, 6 6-lb. do., 6 1½-lb. do., 6 1-lb. do., all well labelled, the lot for 35s.; also 2 very good specie jars, 24 inches high, nicely decorated, 35s. the two. J. Guy, Chester.

Howard's "Encyclopædia," three immense volumes, 1,300 pages each, profusely illustrated with steel engravings; very cheap; well bound. What offers? Address, F. I. Michell, chemist, Falmouth.

A chemist now out of business will sell a duplicate of his book of trade receipts for one guinea; many are valuable, and some have formed very saleable patents; about 200 in all; great variety. 49/81.

Kane's "Chemistry," 5s.; Youatt "On Horse," 4s.; Youatt "On Dog," 2s. 6d.; Pereira's "Selecta Præscriptis," 3s.; Steggall's "Medical Manual," 4s. 6d. Watts, Chemist, Queen's Road, Dalston.

Twenty-four dozen tubes homœopathic globules, nearly all 9d. size, 25s.; also handsome French-polished mahogany case, glass top for same, with holes for 120 bottles, 12s. 6d. R. Lyon, Chemist, Ipswich.

Botany. Useful for Minor students. A collection of coloured illustrations of British plants, including the official, 2s. 6d., post free; also a small herbarium, 2s. 6d., post free. Tully, Chemist, Tunbridge Wells.

Walkinghame's "Arithmetic and Key," 2s.; Ince's "Outlines of History," 6d.; Smith's "Guide to the Examinations," 4s.; a game of quartette, "Botany," illustrating the natural orders, instructive and amusing, 1s. 3d.; also a round game "The Distribution of Plants," 1s. Student, 3 Great Coram Street, W.C.

Faraday's "Chemical Manipulation;" Brande's "Manual of Chemistry;" Stockhardt's "Chemistry;" Fownes' "Manual of Chemistry;" Bowman's "Chemistry;" Hoffman's "Chemistry;" Pereira's "Manual of Materia Medica," by Farre; *Pharmaceutical Journal* from the commencement (16 vols., bound); Beasley's "Book of Prescriptions." Brearey, Douglas, Isle of Man.

Sea medicine chest, second-hand, by Moore & Co., fitted according to Merchant Shipping Act for 21 men and upwards, similar to Maw's fig. A, containing 41 bottles, scales, &c., dimensions 25½ by 15 by 16½ inches, in good condition, 35s.; also some cheap dispensing bottles, flat and oval, 3 and 4-oz., 8s. 6d.; 6-oz., 9s. 6d.; 12-oz., 14s. per gross. Andrews, Chemist, Eastbourne.

4 mahogany-framed pill machines, brass mounted, to cut No. 33, 3 gr., 12s.; 24, 5 gr., 14s.; 30, 4 gr., 17s.; 30, 5-gr. pills, 19s.; 3 dispensing box-end scales, with weights, 6 in. beam, mahogany box, brass pan, 4s. 6d.; 7 in. beam, brass pans, slide top, mahogany box, 6s. 6d.; 8 in. beam, brass arm, and pillar, glass pans, mahogany stand, 7s. 6d. J. W., 2 Chester Road, Macclesfield.

Glass show case, similar to fig. 40, Maw's catalogue, in good condition, to be sold, a bargain; two 2-gallon pear-shaped carboys with cut-glass stoppers, 4s. each; one 11s. De Roos' gutta vitæ; one 2s. 9d. Barry's Tricopherous; two doz. Bandine, various sizes; one doz. 2s. 9d. Band's iodine; two 4s. 6d. Johnson's bark and sarsa. pills; ½ doz. Cathery's Selzine. The above patents at half retail price. Butler, Chemist, Tunbridge Wells.

Nearly new, Maw's bougie mould, cost 15s. 6d., 6s. 6d.; powder folder, cost 2s. 8d., 1s. 6d.; revolving damper 1s.; two double-valved inhalers, 2s. 9d. each; dispensing scales, mahogany box, glass pans, 6s. 6d.; ditto, patent beam, marked scruple, horn pans, 5s.; ditto oak, brass pans, 1s. 9d.; Briet's gazogene, wants new collar, 4s. 6d.; two Comaline Restorer, 2s. 6d.; Bourne & Taylor's enema, mahogany case, 5s. 6d. Offers. Campkin, Cambridge.

Offers wanted for the following goods. A lot of Turkey sponges, cost 30s.; 2d. toilet soap tablets; 3d. ditto; 3d. brown Windsor soaps; 6d. white cosmetique in round cases; 6d. black capped pomades; 8 oz. G. F. dispensing bottles; 1 oz. green glass panelled bottles, heavy; 6 dr. white oval phials; 1 doz. 3 oz. pomade rounds, with black dome caps; 2 doz. 2 oz. white Gregory bottles, fitted; 1 doz. 1 oz. ditto, and other pomade bottles, with boxwood topped corks. Hutchinson, 146 Duke Street, Leith.

Ten 4-lb., 8 2-lb., 32 $\frac{1}{2}$ -lb. gold-labelled, handsome blue opaque glass shop jars, 5s. 9d., 3s. 9d., 2s. each; wide and narrow mouth 3-pint bottles, 15s. dozen; quarts, 10s.; pints, 7s.; smaller, 6s.; 2 nests (14 each) mahogany-fronted drawers, new, 30s. each; nest (16 ditto), 34s. 6d.; show bottles, from 1 to 10 gallons; specie jars, various sizes; 200 shop jars, various sizes and colours; show cases, dispensing screens, window enclosures, and various other fittings, pomade and scent bottles, tooth, midwifery and other instruments, medical books, some furniture, pictures and prints, tobaccoconists' fittings, &c. All cheap, to effect a clearance; also plate-glass front. 294 Old Kent Road, London.

Carriage paid.—Hardwicke's "Photographic Chemistry," 2s. 6d.; Coote's "Syphilis," 2s. 6d.; Gregory's "Chemistry, Organic and Inorganic," 3s. 6d.; Gibbs and Mackenzie's "Laryngoscope," 2 vols., 5s.; Liebig's "Chemistry, Food," 2s. 6d.; Hughes' "Auscultation," 2s.; Nesbit's "Agricultural Chemistry," 2s.; West's "Diseases Childhood," 4s. 6d.; Squire's "Three Pharmacopœias," 3s.; Meade's "Manual Apothecaries' Hall," 2s. 6d.; Miller's "Surgery," 2s. 6d.; Johnson's "Indigestion, Dyspepsia," 3s.; Ballard's "Diseases Infants and Mothers," 2s. 6d.; Bell's "Operations of Surgery," 2s. 6d.; Wittstein's "Pharmaceutical Chemistry," 2s. 6d.; J. Key's "Surgery," 5s.; Pemberton "On Cancer," new, cost 42s., 10s.; Knight's "Half Hours with Best Authors," new copy, 4 vols., 7s. 6d. M. Percy, 12 James Street, Haymarket, London, S.W.

Watson's "Physic," 2 vols., half-calf, published 34s., 6s.; Cooper's "Hernia," fine plates, 21s., 5s.; Garrod's "Materia Medica," 3s. 6d.; *London Medical Journal*, first 5 vols., half-calf, 5s.; Churchill's "Manuals," 4 vols., 50s., 10s.; "Homœopathy," 12 vols., 12s.; Liebig's "Agricultural Chemistry," 3s.; Gray's "Supplement Pharmacopœia," 5s.; Mackenzie and Lawrence's "Diseases Eye," 54s., 6s.; Paxton's "Botanical Dictionary," 16s., 4s.; Smith's "Latin-English Dictionary," new, 5s.; Lindley's "Botany," 18s., 4s.; Laurie and Currie's "Homœopathy," 30s., 5s.; Thomson's "London Dispensatory," 21s., 4s.; Ramsbotham's "Obstetrics," the fine plates, bound, 7s. 6d.; Orfila's "Poisons," 2 vols., 5s.; Bell's "Surgery," interleaved, 8 large vols., 10s. 6d.; Murray's "Chemistry," 4 vols., 4s. 6d.; Turner's "Chemistry," 21s., 3s. 6d. M. Percy, 12 James Street, Haymarket, London, S.W.

Handsome mahogany moulded top counters, with carved trusses, &c., 23 ft. long, 20 ft. 4 in. long, 16 ft. long, 12 ft. long, 11 $\frac{1}{2}$ ft. long, 10 $\frac{1}{2}$ ft. long, 9 ft. long, 8 $\frac{1}{2}$ ft. long, 7 ft. long, 5 $\frac{1}{2}$ ft. long, with and without drawers under; handsome mahogany wall cases, with and without cupboards under, 8 $\frac{1}{2}$ ft. long, 8 ft. long, 4 ft. 6 in. long, 4 ft. 3 long, 3 ft. 11 long, similar to Maw's figs. 198 to 207; one 2 ft. long, one 4 ft. 2 long upright mahogany show cases, similar to fig. 39 Maw's; handsome mahogany plate-glass case, with desk, mirror back, and plate-glass shelves, as Treble's No. 76; mahogany enclosed washstand, fitted with basin, &c., one door in front and drawer under, suitable for a dentist, &c., as Treble's No. 157; 2 ft. 6 long, 4 ft 6 long mahogany desks, similar to Treble's Nos. 80, 155, 159; upright plate-glass case, as Treble's 67; four mahogany shop chairs; 6 ft. long, 3 ft. 6 long, 3 ft. long, 2 ft. 8 long flat mahogany plate-glass counter cases; 8 ft. long, 6 ft. long, 3 ft. 9 long, 3 ft. long, 2 ft. 6 long best plate-glass counter cases; handsome bent plate-glass tooth brush case, as 72 Maw's; mahogany cigar case, as fig. 53A Maw's; soda-water stands, Maw's, as figs. 62 and 63; one 17 in. long 13 in. high handsome mahogany perfume stand, with silvered-glass backs and 12 cut stoppered bottles, similar to fig. 69 Maw's; handsome mahogany plate-glass window enclosure, Treble's, embossed glass door, 10 $\frac{1}{2}$ ft. long; also several smaller, handsome silvered and embossed plate-glass doors, Treble's; handsome plate-glass mirrors, show stands, &c.; 12 nearly new 2-gall. upright show bottles, with cut-glass stoppers, 22 in. high; 40 pear-shape carboys, from 1 to 16 galls.; 14 handsome specie jars, with royal arms, &c., from 18 to 30 in. high; 150 upright and carboy black glass stock bottles; 1 gall. graduated glass displacement apparatus, as fig. 1 Maw's; tin water bath, as fig. A Maw's; tincture presses, as figs. 1 and 2 Maw's; 2, 3, and 6 gall. glass and stone barrels, with taps; handsome pillar shop lamp, as fig. 16 Maw's. Great bargains in patents, sundries, and drugs. Lloyd Rayner, 333 Kingsland Road, London, N.

Show bottles, plain stoppers, carboys, pear-shape—three 6 pints, four 1 gallon, two 15 pints, one 17 pints; cylindrical ditto, six 9 pints; 2 white glass specie jars, japanned covers, and 16 inches high; 2 bell-metal mortars, good condition, weight 37 lbs. and 32 lbs. Offers requested. John Huggins, Alresford, Hants.

For Sale or Exchange, a 6-foot flat plate-glass counter case, as Maw's 99, 7l. 10s.; a 6-foot, as Maw's 105, 7l. 10s.; a 5-foot, ditto, 6l. 10s.; 4 bent plate-glass cases, as fig. 16, about 2 feet to 3 feet 6 long, 30s. each; a 5-foot bent plate-glass case, ebonised, 5l. 10s.; a 5 feet 3 inches long flat plate-glass case, as fig. 96, 5l. 10s.; a 4-foot ditto, ebonised, 3l. 5s.; a 6-foot bent plate-glass case, as fig. 102, 7l. 10s.; a ditto ditto, as fig. 101, 4 feet long, 5l. 10s.; sponge case, as fig. 92, 5l. 10s.; a very handsome dispensing screen, 6 feet 6 long, case at each side, looking-glass in centre, with marble slab in front, with tablets and carved work on top, 9l.; a very good desk and case, as fig. 21, 65s.; a desk without case, solid mahogany, 25s.; 2 outside dental cases, very elaborate; 2 shop chairs; 200 shop rounds; carboys, specie jars, 6 doz., jujube jars, labelled, new, 2s. 6d. each; 4 glass jars, 12 inches high, gold covers, elaborately labelled, 7s. 6d. each; a nest of mahogany fronted drawers, 6 feet 2 long, 2 feet 6 high, repolished and new labels, 2s. 3d. per drawer; a small walnut cabinet, fitted with 5 drawers, 28s.; an upright square case, suitable for centre of shop, for sponge, &c., glass all round and top, 2 feet 2 inches square, 3 feet high, 5l., ebonised mahogany; other cases, fittings, &c.; glasses, shelving, &c.; room wanted. Natali, 213 Old Street, E.C.

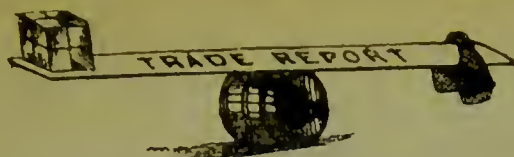
WANTED.

Dentist's vulcaniser, medium size. 21/275.
Good second-hand soda-water machinery. 5/273.
A nest of small drawers, state size, and number in nest. 45/81.
The Chemist and Druggist for August and October, 1874. 6/276.
A cheap second-hand dental chair, with movable head rest. Smith, Chemist, Crediton.
Chemist's lamp, as fig. 9 or 10 Maw's catalogue. State price to Sturton & Sons, Peterborough.
Gray's "Supplement," in good condition. W. D. Williams, 49 High Street, Hampstead, N.W.
Four 8-gallon pear-shaped carboys, second-hand, cheap. Apply to H. Hobson, Chemist, Walsall.
Show stand to fix on wall, also toothbrush case, small, second-hand. Archer, Chemist, Lechdale.
Nest of drawers, about 16, mahogany fronts, height 2 ft. 4, length 3 ft. 6, depth 11 in. 23/11.
Throat Hospital Pharmacopœia; Squire's "Companion;" pessary mould. Pasmore, 47 Mortimer Street, W.
Good dental materials, fittings, cheap dental chair; also old mahogany counter top that has been oiled. 28/273.
Entire fixtures of a chemist's shop, with bottles, carboys, specie jars, glass show-cases, &c. Send particulars and price. 32/83.
A sponge case, as Maw's 92; also a nest of mahogany drawers. State lowest price. J. Kershaw, Glester Road, Birkdale, Southport.
Double magnet; electro-magnetic machine, in case; job lot of trusses, cheap; also a homœopathic show-case, Leath & Ross, or other, in good condition. Marlur, Halstead.
Pereira's "Materia Medica," Attfield's "Chemistry," Sutton's "Volumetric Analysis," Bentley's "Botany," Muter's "Materia Medica," latest editions, lowest price. J., 16 Burton Crescent, W.C.

ADDRESSES AND INFORMATION WANTED.

[Chemists able to give any information in reply to queries printed below are respectfully requested to communicate the same, addressing in the first instance to the reference figure given, "Care of the Publisher of THE CHEMIST AND DRUGGIST." Charge for insertions, 1d. per word.]

Colonel Wood—wounded in the knee at Delhi. 5/222.
Charles Hyde, formerly assistant at Great Yarmouth. 13/276.
Rev. Charles Berry, supposed to be near Cannock Chase. 2/264.
Wanted, the address of Mr. Margetts—tall, sandy whiskers. 22/233.
Wanted, address of Dr. Major—left Canterbury a month since, stout, dark whiskers. 4/273.
Mrs. Faulds, formerly of Harrogate, Leeds, and Scarborough; F. K. Rollitt, solicitor, rather deaf, connections in Hull, successful information rewarded. 34/265.



THE hopefulness of market operators and market reporters has been severely tested during the last 30 months by a continuous contraction of business of the most persistent steadiness. But that hopefulness is not yet exhausted; indeed, it burns brighter as the gloom becomes thicker, and almost every one looks forward to the new year with an assurance of faith Micawber-like in its serenity as well as in its baselessness, in the certainty of something turning up to affect things for the better. The past month or two has witnessed a firmness on the part of manufacturers and a tendency towards speculation on the part of dealers which has infused some animation into markets in which lifelessness had become the most characteristic feature. The pity is that the animation had not come first and had itself induced the speculation and the firmness. This would have been the more healthy condition. This year has been one in which British home trade has not suffered any materially disturbing influences; internally, no doubt, we have been prosperous. The value of the imports for the eleven months ending November 30, compared with the corresponding periods of the two preceding years, are thus estimated:—

	£
1874	340,579,976
1875	341,821,641
1876	344,298,749

So it is evident that in spite of the crippled condition of incomes dependent on Turkish dividends, which, by some incomprehensible process of thought, newspaper authorities have discovered to be the cause of the alleged dulness of trade, our people buy from foreigners and sell to each other more per annum than they ever did before. The fact is, there is no internal dulness of trade to be accounted for, and the ingenious penny-a-liner who was set to discuss its causes was on a fool's errand. The trouble lies in our exports. Here, taking the same periods as those we have already given, the figures stand thus:—

	£
1874	221,606,059
1875	206,144,827
1877	185,306,336

We believe Great Britain is the only nation in the world that can flourish on an apparent balance against her in the account of imports and exports. This is due to the vast interests which Englishmen hold outside the limits of their own islands. But there is a point when this balance cannot be exceeded without rendering us as a nation poorer every year. Precisely where that point lies it would be impossible to say; we only venture to state the obvious fact that we are nearer to it at the end of this year than we were twelve months ago.

It may be interesting to add to these remarks the following official statement of the values of imports and exports of alkali and chemical products for the eleven months of 1874-5-6.

		Imports	Exports
		£	£
Alkali	1874	155,992	2,412,686
Do.	1875	133,177	2,113,506
Do.	1876	106,031	2,032,895
Chemical products ..	1874	938,789	1,946,041
Do.	1875	975,987	2,027,862
Do.	1876	1,030,474	1,754,170

It should be remembered that the falling off in value is largely attributable to the lower rates which have ruled recently; but even with that against them, it will be seen that the value of imported chemical produce steadily augments as exports of the same class of goods decline.

Prices of chemicals have been well maintained during the past month. A distinct advance has been made in soda, and bleaching powder has again been somewhat higher. Latest prices, however, are a trifle in favour of buyers. Quinine has not advanced beyond the price quoted last month, and French has scarcely kept up to that. A considerable increase would doubtless occur in the event of war breaking out. Meanwhile makers are benefiting handsomely by the scare. Saltpetre is another political product, and is strengthening slightly in price, but at present Russian designs have not caused any very appreciable movements in this market. Cream of tartar and tartaric acid are much stronger, the former selling at 11s. per cwt., the latter at 1s. 7d. per lb. Citric is also a little dearer during the past week, business having been done at

2s. 9d.; higher prices asked for next year. Quicksilver has slightly given way, and is now quoted, first hand, 8l. 7s. 6d. to 8l. 10s. Brimstone shows a tendency to advance in consequence of deficient supply.

Large supplies of drugs have been brought forward since our last, and a fairly brisk demand has been noticeable.

Camphor keeps up its price, and crude is held for 90s.; refined has been advanced to 1s. 3d. Balsam capivi, having run down to a very low figure, has lately been bought extensively, and an advance of 4d. has been established, present quotations being 1s. 10d. to 2s. Turkey opium is firm at 24s. to 25s. The entire stock in all markets is computed at 3,635 cases, giving a consumption of only 400 cases per month from now until August, when the first of the new crop begins to arrive. The entire consumption for the same period last year averaged 531 cases per month. The article would thus appear to be in a very strong position, and higher prices are predicted.

Cinchona barks have sold freely at recent prices. Ceylon produce made 3s. 7d. for bold quill, and varying prices down to 1s. 7d. for chips. Some Condurango was bought in for 4d. Castor oil has recovered from recent depression, and has advanced fully ½d. per lb. since last month. Some Japanese paper put up at recent drug sales was bought in at 3s. 6d. per lb. Honey is getting dearer in anticipation of a short supply, and foreign beeswax also sells readily.

A large supply of cinnamon was brought forward at the quarterly sales on the 27th ult., the sales resulting in a general decline of price for all qualities, varying from 1d. to 6d. per lb. A speculative demand for cochineal has caused a general rise, averaging about 5d. per lb. The market for China and Japan galls has been dull and lower. High rates obtained for good musk. At last sales good pod fetched 51s., and good grain 60s. Rhubarb has been quiet, but prices fully maintained. Oils have varied but slightly. Olive is at last prices, but with no sales. It is, however, held very firmly. American turpentine, after the slight reaction we noted last month, has again gone forward, and has now reached 30s. A transaction for shipment of 1,300 barrels in December-January is reported at 31s. Refined petroleum remained steady until a week ago at 1s. 7½d. to 1s. 8½d. but some active buying both for this country and the Continent has given it a new spurt, and the present price is 1s. 10½d. for refined. Petroleum spirit has not advanced in sympathy.

PETROLEUM.—Messrs W. H. Samuel & Co., of Liverpool, in their circular of this date explain the recent advance in price. "Since our issue of the 11th ult., and as therein anticipated, the market for some little time remained quiescent, still waiting the renewed rush of demand which we predicted, and which came at length in the shape of large buying orders from Antwerp and Bremen, where the stocks were reduced down to 135,000 barrels, as against 325,000 barrels same time last year, with only 70,000 barrels on the way, as against 200,000 barrels last year, showing a total deficiency in these two ports alone of over 300,000 barrels. When this startling position became sufficiently patent there ensued for account of these two ports what can only fitly be described as a wild struggle for oil, almost regardless of price, and all our British outports were rapidly cleared at what then appeared high prices to the sellers, who, before they could replace their stocks, were confronted with suddenly advanced and advancing markets, both at home and in the United States, at prices apparently at first almost prohibitory, but which became quickly established, and are now firmly maintained, with a still feverish upward tendency. The deliveries for consumption from these two ports during the past four weeks have been 250,000 barrels, which may therefore fairly be assumed to be the minimum requirement for consumption during the next four weeks, with the addition of say 10 per cent. for the shortening days and convivial season, making altogether 275,000 barrels—but of this there is in stock, and possible to arrive within that period, only 200,000 barrels, so that the remaining 75,000 barrels will have to be drawn at almost any price from the stocks of some of the other European ports, already sufficiently bare, with a correspondingly and consequent still higher range of prices. We find, however, that there are loading for these two ports 210,000 barrels, as against 56,000 barrels same time last year, and when this extra quantity begins to arrive (which cannot, however, be for at least six weeks), the deficiency will be gradually and probably ultimately more than made up, and we may then naturally look for a serious rebound in values, which may possibly begin to show itself earlier in anticipation."

Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mining Lano for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

CHEMICALS.

1876.

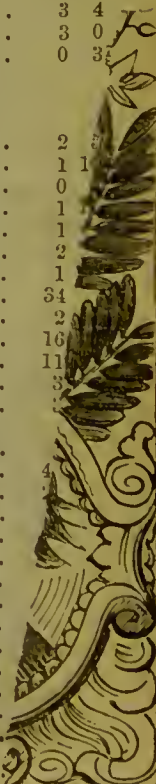
1875.

ACIDS—	s. d.	s. d.	s. d.	s. d.
Acetic .....per lb.	0 3½ to	0 0	0 4 to	0 4½
Citric	2 9 ..	0 0	2 10½ ..	2 11
Hydrochlor.....per cwt.	5 0 ..	7 0	4 0 ..	7 0
Nitric .....per lb.	0 4½ ..	0 0	0 5 ..	0 5½
Oxalic	0 5½ ..	0 0	0 5½ ..	0 0
Sulphuric	0 0½ ..	0 0	0 0½ ..	0 1
Tartaric crystal..	1 7 ..	0 0	1 6 ..	0 0
powdered ..	1 7 ..	0 0	1 6½ ..	0 0
ANTIMONY ore .....per ton	295 0 ..	300 0	260 0 ..	330 0
crudo .. per cwt.	42 0 ..	0 0	37 0 ..	38 0
star.....	54 0 ..	55 0	59 0 ..	60 0
ARSENIC, lump.....	26 6 ..	27 0	27 0 ..	28 0
powder.....	10 6 ..	11 3	13 6 ..	13 9
BRIMSTONE, rough...per ton	120 0 ..	130 0	150 0 ..	0 0
roll .. per cwt.	10 0 ..	0 0	10 0 ..	10 3
flour.....	13 6 ..	0 0	12 6 ..	15 0
IODINE, dry .....per oz.	0 5½ ..	0 0	0 6 ..	0 6½
IVORY BLACK, dry .. per cwt.	8 6 ..	0 0	8 6 ..	0 0
MAGNESIA, calcined..per lb.	1 8 ..	0 0	1 6 ..	0 0
MERCURY .....per bottle	165 0 ..	170 0	250 0 ..	260 0
MINIUM, red.....per cwt.	23 3 ..	0 0	24 0 ..	25 6
orange ..	37 0 ..	0 0	37 0 ..	0 0
PRECIPITATE, red . per lb.	4 1 ..	0 0	5 3 ..	0 0
white ..	4 0 ..	0 0	5 2 ..	0 0
PRUSSIAN BLUE ..	0 0 ..	0 0	0 0 ..	0 0
SALTS—				
Alum .....per ton	145 0 ..	150 0	147 6 ..	155 0
powder.....	157 6 ..	160 0	165 0 ..	0 0
Ammonia:				
Carbonate.....per lb.	0 5 ..	0 5½	0 5 ..	0 5½
Hydrochlorate, crude,				
white .....per ton	560 0 ..	670 0	570 0 ..	650 0
British (see Sal Am.)				
Sulphate.....per ton	380 0 ..	385 0	365 0 ..	370 0
Argol, Cape .....per cwt.	80 0 ..	91 0	85 0 ..	96 0
Red.....	65 0 ..	75 0	71 0 ..	95 0
Oporto, red. ..	33 0 ..	33 6	33 6 ..	34 0
Sicily	60 0 ..	62 0	60 0 ..	62 6
Ashes (see Potash and Soda)				
Bleaching powd...per cwt.	8 0 ..	8 3	8 0 ..	8 3
Borax, crude.....	27 0 ..	40 0	30 0 ..	50 0
British refnd. ..	41 0 ..	42 0	53 0 ..	0 0
Calomel .....per lb.	3 8 ..	0 0	4 9 ..	0 0
Copper:				
Sulphate ....per cwt.	22 0 ..	22 6	24 6 ..	25 0
Copperas, green...per ton	55 0 ..	60 0	65 0 ..	0 0
Corrosive Sublimate p. lb.	3 1 ..	0 0	4 1 ..	0 0
Cr. Tartar, French, p. cwt.	114 6 ..	115 0	110 0 ..	111 0
brown ..	95 0 ..	0 0	92 6 ..	0 0
Epsom Salts .....per cwt.	5 3 ..	7 0	5 3 ..	6 6
Glauber Salts	4 6 ..	5 6	4 6 ..	5 6
Lime:				
Acetate, white, per cwt.	11 0 ..	20 0	11 0 ..	20 0
Magnesia: Carbonate ..	45 0 ..	0 0	42 6 ..	0 0
Potash:				
Bichromate ....per lb.	0 4½ ..	0 0	0 4½ ..	0 5½
Carbonate:				
Potashes, Canada, 1st				
sort .....per cwt.	26 0 ..	0 0	28 0 ..	28 6
Pearlshes, Canada, 1st				
sort .....per cwt.	34 0 ..	0 0	33 6 ..	0 0
Chlorate .....per lb.	0 9½ ..	0 0	0 9 ..	0 0
Prussiate	1 0 ..	1 0½	1 0 ..	0 0
red	2 1 ..	2 2	3 2 ..	3 3
Tartrate (see Argol and Cream of Tartar)				
Potassium:				
Chloride.....per cwt.	0 0 ..	0 0	7 0 ..	0 0
Iodide .....per lb.	7 9 ..	8 0	8 6 ..	9 0
Quinine:				
Sulphate, British, in				
bottles .....per oz.	11 0 ..	0 0	6 6 ..	6 9
Sulphate, French ..	10 0 ..	0 0	6 2 ..	0 0
Sal Acetos .....per lb.	0 7½ ..	0 8	0 8 ..	0 8½
Sal Ammoniac, Brit. cwt.	44 0 ..	45 0	44 0 ..	45 0
Saltpetre:				
Bengal, 6 per cent. or				
under .....per cwt.	19 9 ..	20 6	19 0 ..	19 6
Bengal, over 6 per cent.				
per cwt.	18 6 ..	19 6	18 0 ..	18 9
British, refined ..	23 6 ..	25 0	22 3 ..	24 0
Soda: Bicarbonate, p. cwt.	12 0 ..	13 0	10 0 ..	0 0
Carbonate:				
Soda Ash ..per deg.	0 2½ ..	0 0	0 2 ..	0 0
Soda Crystals per ton	90 0 ..	0 0	85 0 ..	0 0
Hypsulphite, per cwt.	0 0 ..	0 0	0 0 ..	0 0
Nitrate .....per cwt.	12 6 ..	0 0	11 6 ..	0 0
SUGAR OF LEAD, White cwt.	37 0 ..	38 0	40 0 ..	0 0
SUGAR OF LEAD, Brown, cwt.	27 0 ..	0 0	27 0 ..	0 0
SULPHUR (see Brimstone)				

	1876.	1875.		1876.	1875.
VERDIGRIS .....per lb.	1 1 to	1 5	VERMILION, English	3 6 ..	0 0
VERMILION, China ..	3 0 ..	3 1		5 6 ..	0 0
DRUGS.					
ALOES, Hepatic ....per cwt.	70 0 ..	160 0		60 0 ..	160 0
Socotrinc ..	65 0 ..	180 0		65 0 ..	200 0
Cape, good..	49 0 ..	50 0		36 0 ..	39 0
Inferior ..	42 0 ..	48 0		39 0 ..	35 0
Barbadoes ..	55 0 ..	190 0		45 0 ..	210 0
AMBERGRIS, grey.....oz.	55 0 ..	65 0		40 0 ..	55 0
BALSAM—					
Canada.....per lb.	1 4½ ..	0 0		1 6 ..	1 9
Capivi	1 10 ..	2 0		2 6 ..	2 7
Peru	5 3 ..	5 0		0 0 ..	0 0
Tolu	11 0 ..	12 0		0 0 ..	0 0
BARKS—					
Canella alba.....per cwt.	20 0 ..	24 6		16 0 ..	27 0
Cascarilla	16 0 ..	21 0		18 0 ..	22 6
Peru, crown & grey per lb.	1 3 ..	3 1		1 0 ..	3 0
Calisaya, flat ..	2 6 ..	5 0		2 6 ..	4 0
quill ..	2 9 ..	5 0		2 6 ..	4 0
Carthagena ..	2 5 ..	3 7		0 8 ..	2 3
Columbian ..	2 0 ..	5 3		1 0 ..	2 10
E. I.	1 9 ..	5 0		1 0 ..	4 7
Pitayo	0 10 ..	2 4		0 6 ..	1 9
Red	2 0 ..	4 6		1 0 ..	4 6
Buchu Leaves.....	0 1 ..	1 1		0 1½ ..	1 1
CAMPHOR, China ..per cwt.	87 6 ..	90 0		69 0 ..	0 0
Japan ..	87 0 ..	89 0		72 6 ..	0 0
Refin. Eng. per lb.	1 3 ..	0 0		1 0½ ..	1 1
CANTHARIDES.....	2 8 ..	3 6		3 6 ..	5 0
CHAMOMILE FLOWERS p. cwt.	45 0 ..	200 0		35 0 ..	60 0
CASTOREUM .....per lb.	7 0 ..	25 0		6 0 ..	26 0
DRAGON'S BLOOD, lp. p. cwt.	140 0 ..	260 0		130 0 ..	200 0
FRUITS AND SEEDS (see also Seeds and Spices).					
Anise, China Star per cwt.	85 0 ..	105 0		112 0 ..	115 0
Spanish, &c. ..	28 0 ..	40 0		30 0 ..	35 6
Beans, Tonquin....per lb.	1 7 ..	2 7		1 6 ..	3 6
Cardamoms, Malabar					
good	3 9 ..	4 2		4 3 ..	5 11
inferior....	0 9 ..	3 8		1 0 ..	3 9
Madras	1 11 ..	3 5		3 0 ..	4 0
Ceylon	4 6 ..	5 0		6 0 ..	6 8
Cassia Fistula....per cwt.	10 0 ..	32 0		7 0 ..	13 0
Castor Seeds	5 0 ..	10 6		10 0 ..	10 6
Cocculus Indicus ..	9 0 ..	11 0		13 6 ..	16 0
Colocynth, apple ..per lb.	0 6 ..	0 11		0 6 ..	0 11
Croton Seeds ....per cwt.	35 6 ..	36 6		36 0 ..	38 0
Cubebs.....	30 0 ..	0 0		24 0 ..	26 0
Cumin	18 0 ..	30 0		23 0 ..	26 0
Dividivi	10 0 ..	15 0		11 0 ..	15 0
Fenugreek	9 0 ..	12 0		12 0 ..	16 0
Guinea Grains ..	20 0 ..	0 0		23 0 ..	24 0
Juniper Berries ..	8 0 ..	10 0		10 0 ..	11 6
Nux Vomica	9 0 ..	12 0		7 0 ..	12 0
Tamarinds, East India,,	10 0 ..	15 6		18 0 ..	24 0
West India ..	10 0 ..	15 6		10 0 ..	16 0
Vanilla, large ....per lb.	26 0 ..	40 0		60 0 ..	71 0
inferior ..	13 0 ..	20 0		30 0 ..	59 0
GINGER, Preserved, per lb.	0 5 ..	0 6½		0 7 ..	0 9½
HONEY, Chili ....per cwt.	40 0 ..	47 6		47 0 ..	60 0
Jamaica ..	35 0 ..	47 0		45 0 ..	53 0
Australian ..	0 0 ..	0 0		45 0 ..	62 0
IPECACUANHA ....per lb.	4 0 ..	4 6		4 0 ..	4 6
ISINGLASS, Brazil..	2 6 ..	4 10		2 3 ..	4 9
Tongue sort ..	3 0 ..	5 2		2 8 ..	5 2
East India ..	1 6 ..	4 9		1 0 ..	4 10
West India ..	4 1 ..	4 9		4 3 ..	4 9
Russ. long staple	9 0 ..	12 6		13 0 ..	16 0
inferior ..	0 0 ..	0 0		0 0 ..	0 0
Simovia ..	2 0 ..	3 3		3 0 ..	4 0
JALAP, good.....	0 7 ..	0 8		0 7 ..	0 8
infer. & stems ..	0 6 ..	0 6½		0 6 ..	0 6½
LEMON JUICE ....per degree	0 1 ..	0 1½		0 1½ ..	0 2
LIME JUICE.....per gall.	1 3 ..	1 8		1 6 ..	2 0
LIQUORICE, Spanish per cwt.	0 0 ..	0 0		37 0 ..	90 0
Liquorice Root ..	12 0 ..	30 0		16 0 ..	30 0
MANNA, flaky .....per lb.	5 6 ..	6 0		5 6 ..	6 0
small	1 6 ..	1 9		1 6 ..	1 9
MUSK, Pod.....per oz.	13 0 ..	50 0		17 0 ..	50 0
Grain	35 0 ..	60 0		47 0 ..	61 0
OILS (see also separate list)					
Almond, expressed per lb.	1 2 ..	0 0		1 2 ..	0 0
Castor, 1st pale....	0 4½ ..	0 5		0 4½ ..	0 4½
second	0 4 ..	0 4½		0 3½ ..	0 4
Cod Liver .....per gall.	5 6 ..	7 6		4 0 ..	6 6
Croton	0 2½ ..	0 0		0 2½ ..	0 0
Essential Oils:					
Almond	20 0 ..	0 0		24 0 ..	25 0
Anise-seed	6 6 ..	6 9		8 6 ..	9 0
Bay	0 0 ..	0 0		65 0 ..	70 0
Bergamot .....per lb.	10 0 ..	15 0		10 0 ..	21 0
Cajuput.....per bottle	2 9 ..	3 0		2 4 ..	2 10
Caraway.....per lb.	9 0 ..	9 3		9 0 ..	0 0
Cassia	3 9 ..	3 10		3 11 ..	4 0
Cinnamon .....per oz.	2 6 ..	6 6		1 0 ..	6 6
Cinnamon-leaf ..	0 2 ..	0 4		0 2 ..	0 3½
Citronelle	0 2 ..	0 0		0 1½ ..	0 2
Clove	9 0 ..	0 0		10 0 ..	10 3
Juniper	0 0 ..	0 0		0 0 ..	0 0
Lavender .....per lb.	1 8 ..	7 0		0 0 ..	0 0
Lemon.....	7 0 ..	9 6		7 0 ..	11 0
Lemongrass .....per oz.	0 2½ ..	0 0		0 2½ ..	0 3

	1876.		1875.	
Essential Oils, continued:—	s. d.	s. d.	s. d.	s. d.
Neroli	3 0	6 6	0 4	3 0
Nutmeg	0 7	0 7½	0 7	0 0
Orange.....per lb.	6 0	9 0	6 0	9 0
Otto of Roses.....per oz.	13 0	25 0	13 0	25 0
Patchouli	2 0	3 6	2 0	3 6
Peppermint:				
American	12 6	14 9	16 0	16 9
English	34 0	35 0	32 0	34 0
Rosemary	2 0	2 6	1 4	1 10
Sassafras	2 3	2 6	2 3	2 6
Spearment	14 0	16 0	12 0	19 0
Thyme.....	0 0	0 0	1 9	2 0
Mace, expressed ..per oz.	0 6	0 10	0 7½	0 10
OPIUM, Turkey.....per lb.	24 0	25 0	19 0	21 6
inferior	10 0	18 0	12 6	13 6
QUASSIA (bitter wood) per ton	100 0	140 0	100 0	210 0
RHUBARB, China, good and fine	3 2	4 5	3 10	4 8
Good, mid. to ord. ..	0 8	2 11	0 8	3 4
Dutch Trimmed ..	0 0	0 0	0 0	0 0
ROOTS—Calumba.....per ewt.	18 0	26 0	22 0	27 0
China	22 0	24 0	19 0	24 0
Chiretta	0 3½	0 4	0 4	0 6
Galangal	19 0	22 0	19 0	24 0
Gentian	23 0	24 0	22 0	23 0
Hellebore	0 0	0 0	30 0	33 0
Orris	26 0	75 0	26 0	75 0
Pellitory	70 0	76 0	38 0	39 0
Pink	0 0	0 0	0 10	1 3
Rhatany	0 4	1 0	0 4	0 10
Seneka.....	3 6	3 9	3 5	4 0
Snake	0 6	0 6½	0 10	1 0
SAFFRON, Spanish ..	33 0	37 0	0 0	0 0
SALEP	0 0	0 0	0 0	0 0
SARSAPARILLA, Lima per lb.	0 5	0 7	0 0	0 0
Guayaquil	1 9	2 0	0 0	0 0
Honduras	1 1	1 6	1 3	1 11
Jamaica	1 9	3 0	1 6	2 10
SASSAFRAS	0 0	0 0	0 0	0 0
SCAMMONY, Virgin ..per lb.	24 0	30 0	25 0	36 0
second & ordinary ..	6 0	22 0	7 0	24 0
SENNA, Bombay	0 1	0 4	0 1	0 4
Tinnivelly	0 2½	2 0	0 1	0 10
Alexandria	0 5	2 8	0 7	2 6
SPERMACEETI, refined ..	1 4	0 0	1 4	0 0
American	1 0	0 0	1 1	0 0
SQUILLS	0 2	0 3	0 3	0 5
GUMS.	£ s.	£ s.	£ s.	£ s.
AMMONIAC drop .. per ewt.	2 2	2 10	2 5	2 10
lump ..	1 0	1 14	1 6	1 10
ANIMI, fine washed ..	11 0	12 10	11 10	13 0
bold scraped ..	9 10	10 17/6	10 0	11 0
sorts	6 10	9 5	7 0	10 0
dark	4 0	6 0	4 10	8 0
ARABIC, E.I., fine				
pale picked ..	2 19	4 0	3 5	3 15
srts., md. to fin. ..	2 9	2 18	1 8	3 2/6
garblings ..	1 1	2 4	0 19	1 15
TURKEY, pick. gd. to fin. ..	6 10	10 15	6 0	9 0
second & inf. ..	3 0	6 10	2 10	5 10
in sorts ..	2 5	3 5	1 10	1 15
Gedda	1 6	1 10	1 1	1 3
BARBARY, white ..	2 4	2 8	1 10	1 15
brown ..	1 12	1 16	1 5	1 8
AUSTRALIAN	1 15	2 7	1 17	2 6
ASSAFETIDA, cm. to fin ..	0 18	2 11	0 18	1 6
BENJAMIN, 1st & 2nd ..	10 0	39 0	10 0	30 0
Sumatra 1st & 2nd ..	6 5	15 0	7 10	12 0
3rd ..	3 10	5 5	4 0	5 0
COPAL, Angola red ..	6 0	6 15	6 0	6 15
Benguela ..	4 0	5 0	4 0	5 0
Sierra Leone, per lb.	0 6	0 11	0 8	0 11
Manilla.....per ewt.	15 0	27 0	20 6	31 0
DAMMAR, pale	66 0	68 0	58 0	61 6
Singapore	65 0	67 6	58 0	61 0
EUPHORBIA	11 0	16 0	12 0	20 0
GALBANUM	0 5	1 3	1 0	1 6
GAMBOGE, pickd. pipe per ewt.	220 0	275 0	180 0	240 0
GUALACUM	1 3	3 0	0 6	2 0
KINO.....per ewt.	40 0	50 0	50 0	80 0
KOWRIE, rough ..	32 0	58 0	40 0	53 0
seraped sorts ..	60 0	70 0	54 0	70 0
MASTIC, picked ....per lb.	4 0	5 0	4 0	5 0
MYRRH, gd. & fine ..per cwt.	160 0	170 0	170 0	200 0
ord. to fair ..	95 0	150 0	61 0	170 0
OLIBANUM, p. drop ..	50 0	54 0	57 0	63 0
amber & ylw. ..	36 0	50 0	53 0	56 0
garblings ..	15 0	26 0	23 6	30 0
SENEGAL	3 0	3 5	2 10	2 15
SANDARAC	75 0	85 0	85 0	100 0
SHELLAC, Orange ..	100 0	160 0	125 0	200 0
Liver ..	95 0	115 0	112 6	160 0
THUS	20 0	21 6	20 0	22 0
TRAGACANTH, leaf ..	240 0	400 0	180 0	375 0
in sorts ..	25 0	175 0	20 0	175 0
OILS.	£ s.	£ s.	£ s.	£ s.
SEAL, pale	34 0	0 0	33 10	0 0
yellow to tinged ..	32 0	33 0	30 0	33 0
brown	31 0	31 10	29 10	30 0
SPERM.....	90 0	0 0	95 0	96 0
BODY	0 0	0 0	0 0	0 0
COD	41 10	0 0	44 0	0 0

	1876.		1875.	
Oils, continued:—	£ s.	£ s.	£ s.	£ s.
WHALE, South Sea, pale, per tun	35 0	0 0	34 10	0 0
yellow ..	32 0	34 10	32 0	34 0
brown ..	30 0	0 0	29 0	30 0
East India, Fish ..	26 10	0 0	23 0	23 10
OLIVE, Galipoli	48 0	48 10	0 0	0 0
Gioja	47 0	48 0	47 0	0 0
Levant	0 0	0 0	42 10	43 0
Mogador	0 0	0 0	0 0	0 0
Spanish	0 0	0 0	0 0	0 0
Sicily	0 0	0 0	0 0	0 0
COCOANUT, Cochin ..	41 0	41 10	41 10	0 0
Ceylon ..	37 15	0 0	38 10	39 0
Sydney ..	31 0	37 0	32 0	39 0
GROUND NUT AND GINGELLY:				
Bombay	0 0	0 0	0 0	0 0
Madras	36 0	37 0	34 0	0 0
PALM, fine.....	40 10	41 0	39 10	0 0
LINSEED	26 0	26 2/6	25 0	25 5
RAPESEED, English, pale ..	40 15	0 0	41 10	0 0
brown ..	38 15	0 0	39 5	39 10
Foreign, pale ..	40 10	0 0	41 0	0 0
brown ..	0 0	0 0	0 0	0 0
COTTONSEED	30 0	0 0	29 10	0 0
LARD	58 0	0 0	62 0	64 0
TALLOW	31 0	46 0	30 0	54 0
TURPENTINE, American, eks.	30 0	0 0	25 3	0 0
French ..	0 0	0 0	24 9	0 0
PETROLEUM, Crude	0 0	0 0	0 0	0 0½
refined, per gall.	1 10½	0 0	0 11½	0 11½
Spirit ..	1 0	1 0½	0 9½	0 0
SEEDS.				
CANARY.....per qr.	69 0	75 0	160 0	0 0
CARAWAY, English per cwt.	44 0	45 0	44 0	0 0
German, &c....	0 0	0 0	0 0	0 0
CORIANDER	12 0	21 0	12 0	18 0
HEMP	40 0	45 0	36 0	38 0
LINSEED, English per qr. ..	60 0	66 0	60 0	64 0
Black Sea & Azof ..	52 6	0 0	0 0	0 0
Calcutta ..	53 6	53 9	52 6	0 0
Bombay ..	0 0	0 0	53 6	54 0
St. Petersburg ..	52 0	53 0	0 0	0 0
Mustard, brown ..per bshl.	12 0	15 0	0 0	0 0
white ..	13 0	16 0	10 0	13 0
POPPY, East India, per qr.	51 6	52 0	53 0	53 6
SPICES.				
CASSIA LIGNEA ..per cwt.	54 0	65 0	54 0	70 0
Vera	22 0	45 0	22 0	44 0
Buds	80 0	85 0	95 0	105 0
CINNAMON, Ceylon:				
1st quality	1 10	3 7	2 3	3 9
2nd do.	1 7	2 9	2 0	2 11
3rd do.	1 5	2 6	1 11	2 6
Telliecherry	2 9	3 0	0 0	0 0
CLOVES, Penang	2 5	2 6	2 1	2 2
Amboyna	1 7	1 9	1 6	1 7
Zanzibar	1 0½	1 3	1 3	1 4
GINGER, Jam., fine per cwt.	91 0	202 6	100 0	102 6
Ord. to good	54 0	90 0	62 0	95 0
African	29 0	0 0	46 0	47 0
Bengal	27 0	27 6	41 0	43 0
Malabar	28 6	0 0	40 0	45 0
Cochin	50 0	115 0	65 0	120 0
PEPPER, Blk, Malabar, per lb.	0 4½	0 5½	0 5½	0 6½
Singapore	0 4½	0 0	0 5½	0 0
White Telliecherry ..	0 10	1 4	0 11	1 5
Cayenne	2 0	3 0	3 0	3 4
MACE, 1st quality ..	2 3	3 3	2 4	3 3
2nd and inferior ..	1 0	2 2	1 1	2 3
NUTMEGS, 78 to 60 to lb.	3 10	4 9	3 5	4 2
90 to 80 ..	3 2	3 8	2 11	3 4
132 to 95 ..	2 3	3 1	2 6	3 0
PIMENTA	0 4½	0 4½	0 3½	0 3½
VARIOUS PRODUCTS.				
COCHINEAL—				
Honduras, black ..per lb.	2 10	3 2	1 10	2 5
silver ..	2 7	2 9	1 7	1 1
pasty ..	2 6	0 0	1 6	0 0
Mexican, black	2 8	2 10	1 8	1 1
silver ..	2 7	0 0	1 7	1 1
Teneriffe, black ..	2 11	3 9	1 9	2 2
silver ..	2 8	2 10	1 8	1 1
SOAP, Castile.....per cwt.	26 0	33 0	33 0	34 0
SOY, China	1 8	1 0	2 2	2 2
SPONGE, Turk. fin. pkd prlb.	0 0	0 0	12 0	16 0
Fair to good ..	0 0	0 0	4 0	11 0
Ordinary ..	0 0	0 0	1 0	5 0
Bahama ..	0 0	0 0	0 6	0 0
TERRA JAPONICA—				
Gambier	20 3	0 0	26 9	0 0
Free cubes ..	34 0	36 0	39 0	4 0
Cuteh	25 6	26 0	26 0	0 0
WOOD, DYE, Bar ..per ton	£3 5	£3 10	£4 0	0 0
Brazil	0 0	0 0	6 0	0 0
Cam	18 0	35 0	0 0	0 0
Fustie, Cuba	8 10	9 0	9 0	0 0
Jamaica	5 0	5 5	6 10	0 0
LOGWOOD, Campeachy ..	9 10	10 0	11 0	0 0
Honduras	6 5	6 15	8 0	0 0
St. Domingo	5 10	6 10	7 0	0 0
Jamaica	5 10	5 15	6 10	0 0
LIMA, first pile	8 10	9 10	9 10	0 0
RED SANDERS	6 5	6 10	7 5	0 0





L. S. & Co.—Freezing Salts.—Sal ammoniac, 1 part; saltpetre, 2 parts; caustic soda, 3 parts. All in powder, to be mixed when required for use. Or, nitrate of ammonia and crystallised carbonate of soda equal parts. Or, snow (or pounded ice), 2 parts; salt, 1 part. Or, snow, 5 parts; diluted sulphuric acid, 3 parts.

H. B.—Concentrated Infusions.—The usual method is to take 8 times the quantity of ingredients and prepare by percolation, adding to the product 10, 15, or 20 per cent. of rectified spirit, woody materials requiring the least spirit, mucilaginous substances needing more spirit. A more accurate method, but needing more care, is to concentrate an infusion made as officially directed to one-eighth of its original bulk by evaporation, bottling and adding spirit as before while hot. After a week or two the preparations should be filtered.

Chemicus Curiosus, who gives his real name and address, not necessarily for publication, but as a guarantee of good faith, submits a few queries which, we are sorry to have to report, force us reluctantly into a condition of scepticism as to the sufficiency of the time-honoured guarantee just alluded to. He asks us first how it is that there still remain a few wholesale drug houses who do not advertise in their recognised trade organ?—Well, we always try to put the best construction on the motives of our erring brethren, and in this case we will presume that the firms in question are so well satisfied with their past career that they have no wish for additional wealth or fame.

2. Do you know of a magazine published in London professedly devoted to "Bygone Purposes and Serious Farces?"—We cannot find it in the "Press Directory," and yet the title sounds familiar.

3. Can you tell me if Miss Boud is yet consoled for the loss of her late papa, the famous John?—We fear not; her sorrow, like her iuk, is indelible.

4. I should be glad if you would explain how I can get a clerical testimonial to the efficacy of my world-renowned Pulmonario Brokentino. Also please give names and addresses of a few sufficiently orthodox and popular preachers.—All we can think of at the present moment are Henry Ward Beecher, Pope Pins IX., and the Reverend Doctor Joseph Parker. But we are under the impression that these gentlemen have already been appropriated. Would not a nobleman with a leg of thirty years' standing answer your purpose?

5. If I should meet with any accident on Christmas Day which should afflict me with headache on the morning of the 26th, may I without infringing the Apothecaries Act mix for myself a "short draught," or must I apply to a duly qualified medical man?—This question had better be addressed to the editor of a medical journal.

6. Do you know of any diary better suited to the daily use of a chemist and druggist than the one entitled "The Chemists' and Druggists' Diary" for 1877, published at 44A Cannon Street? Because, if you do, I don't.

Ung. Ac. Boracis.—Boracic writes:—I observe in the last "C. & D." X.I. wants a recipe for ung. acidi boracis. I think this is what he wants:—

Professor Lister's Ung. Boracis.

	Pints
P. acid boracic	1
Cera alba	1
Ol. amygdal.	2
Paraffin	2

Melt. Stir thoroughly in a heated mortar till the mass begins to thicken.

Mr. W. T. Hyne (Glasgow) writes:—I have frequently had the following prescription presented to me to be dispensed:—

Hyd. sub. chlor.	3j.
Acid carbolic	3j.
Aq. calcis.	3viij.

ft. lotio.

Now, to mix these in the order as they are written, a lotion with a white precipitate is produced, but take the first and last and mix them, then add carb. acid, the ordinary lot. nig. is produced. A somewhat similar result is produced when operating with hyd. perchlor. Can you or any of our subscribers state the cause of this, or whether there is any chemical reaction occurring in the mixture?

The right method of dispensing the prescription is to add the drachm of oil to the lime water.

The black oxide of mercury or mercurous oxide (Hg_2O) is thrown down. The solution when well shaken up is an exceedingly useful application. The use of carbolic acid as an antiseptic, disinfectant, and deodoriser is an advantage, but it must be put into the lotion last. Otherwise a white colour is produced, due either to the calomel being partially undecomposed in the presence of the acid, or to the acid having a direct action on the calcium

hydrate. By dispensing as at first indicated, the ordinary lotio nigra is made, combined with a valuable adjunct.

The same order of dispensing must be observed with regard to the mercuric chloride.

Botanic.—If you would look back a month or two through our Exchange Column you would find exactly what you want offered.

J. B.—We should recommend Wanklyn's "Treatise on Water Analysis" (Trübner, 2s. 6d.), Hassall "On Food, &c." (Longmans).

Metal Fusible in Boiling Water.—

Bismuth	8
Lead	5
Tin	3

Melt together.

Sponges.—(1) Absolute alcohol may be prepared from spirit of wine by removing all the water first by agitation with carbonate of potash, decantation, and then distillation from quicklime. The process is described fully in Attfield's "Chemistry." (2) How long can an assistant to a surgeon continue practising after the death of the surgeon, the assistant not being qualified?—He cannot legally practise at all if he pretends to be a surgeon. If he does not make this profession there does not seem to be any law to prevent him practising as long as he likes, unless he happen to be a chemist and druggist. (3) To be answered next month. (4) Flat wine can be enlivened by the addition of 3 lbs. of honey to the hog-head, or 5 lbs. of sultana raisins, or 3 quarts brandy, letting it remain two or three weeks. Or it can be accomplished more quickly by the addition of one or two tablespoonfuls of yeast and moving the cask to a warmer place.

W. H.—Tomes' "Manual of Dental Surgery" (Churchill, 12s. 6d.).

Quinine (Ceylon).—The imports of cinchona bark in the year 1875 amounted to 36,531 cwts., valued at 374,150*l.* We will send you fuller particulars by hook post.

Waterproof Packing Paper.—The following is a German recipe:—Dissolve 680.4 grammes (about 1.82 lb.) of white soap in a quart of water, dissolve 1.82 oz. troy of gum Arabic and 5.5 ozs. gluc. Mix the two solutions, warm them, and soak the paper in the liquid. Pass it between rollers, or simply hang it up to drip, and then only at a gentle temperature.—*Journ. Franklin Inst.*

Fat Stock.—Spices for horses and cattle are variously made, and we cannot give you the formula adopted by the makers you name. The following is a usual one. Turmeric, 2 lbs.; caraway, aniseed, coriander, of each 1 lb.; cummin seeds, liquorice and ginger, of each $\frac{1}{2}$ lb.

Balloon asks:—What is the best, most expeditious and safest method of inflating a fire balloon? I have tried brown paper screwed up in wads, set fire to in lengths of a foot; have also tried methylated spirits on tow on the end of a rod, but have found both these plans tedious and unsatisfactory. Would you recommend the balloon to be crumpled up and all the air exhausted before heat is applied. What should be the diameter of mouth for a 6-foot balloon? Perhaps, Mr. Editor, some of your readers could inform me or recommend some little cheap work on it.

Brewer wants information as under. He says: I have been in the habit of paying 3s. gallon for Bailey's finings, but my customers tell me they can obtain a very similar article, equally efficacious, for 1s. 6d. Can any one elucidate this matter?

Arsenic Paper.—The *Boston Journal of Chemistry* suggests a ready means of roughly testing ordinary green wall paper for arsenic. The tests for arsenic, strictly so called, are suited only to laboratory use, but since it is the arsenite of copper that is employed for the poisonous green colours, a test for copper is sufficient for ordinary purposes. Put a drop of aqua ammonia on the suspected paper, and if it changes the colour to blue you may be sure that copper is there, and almost as sure that arsenic is present also. There is not one chance in a hundred that a more critical examination would lead to a different conclusion. At any rate we advise our readers not to use any paper on the walls of their houses, or for any other purpose, if this simple test makes it character suspicious.

Gelatine Suppositories.—*Dandelion* writes, in answer to *Dens Leonis*, No. 2, Notes and Queries, CHEMIST AND DRUGGIST, November, 1876, "Well softened gelatine in water: about two parts of this and one of glycerine may be melted together in oven, then add active ingredients, suitably prepared: stir and pour into oiled moulds. (Smith's 'Pharmaceutical Guide,' 2nd edition, page 225.) Formula must be carefully followed. Less gelatine, the suppositories shrink. Have used it with atropine and iodide of lead. More manageable than cerates; more soluble than those of tragacanth mentioned in same work. Pessaries dissolve in half-an-hour."

L. S. writes:—We think the composition of Perry Davis' Pain Killer has been published either in your pages or in those of the *Pharmaceutical Journal* or the "Year-Book of Pharmacy." Can you give us the date and reference?—We have no recollection of the publication.